



STIC Search Report

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TO: Bao-Qun Li
Location: REM-3D24/3C18
Art Unit: 1648
Wednesday, March 14, 2007
Case Serial Number: 10/789355

From: Barb O'Bryen
Location: Biotech-Chem Library
Remsen 1a69
Phone: 571-272-2518

Barb
barbara.obryen@uspto.gov

Search Notes

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From: Li, Bao-Qun
Sent: Monday, March 12, 2007 9:13 AM
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Bao Qun Li M.D
TC 1600
Art Unit 1648
Tel. 517-272-0904
REM, 3C18
Rm. 3D24

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Db	3122	AAGGTGTTGTCTTGAACCCGTCGCTCCGCGCACCTTAAGTTTCGGGGGCTATATGTCT	3181
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Db	3182	AAGGCACTATGTATGACCTTAACATCAAGAACCGGGGTAAAGAACATCAACCGGGTGGC	3241
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Db	3542	CACCTCATTTTCTGCGCATTCGAAGAGAAATGTATGAGCTCGCGCGAAAGCTTCCGCG	3601
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Db	3602	CTCGGACTCAATGCTGTATGCAATTTACCGGGGGCTTGATGTATCCGTATCAACAATAGC	3661
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Db	3662	GGAGACGTGCATGTGCTAGCAAGGAGCGCTTATAGACGGGCTTTACCGGCGATTTTCGAC	3721
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Db	3722	TCAGTGTATCGACTGCAATACATGTGTGTCACCCGACAGTGTGACTTCAAGCTTGGACCGGACC	3781
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QY	3842	AGGACTGTAGGGGAGAGATGGGCAATTTACAGGTTTGTGACTCCAGAGAAACGGCCCTCG	3901
Db	3842	AGGACTGTAGGGGAGAGATGGGCAATTTACAGGTTTGTGACTCCAGAGAAACGGCCCTCG	3901
QY	3902	GGCATGTTTCATTTCTCGGTTCTGTGTGAGTGTATAGCCCGGGCTGTCTTGGTATAGG	3961
Db	3902	GGCATGTTTCATTTCTCGGTTCTGTGTGAGTGTATAGCCCGGGCTGTCTTGGTATAGG	3961
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Db	3962	CTCAGCGCCCGCGAGACTCAGTTAGGTTTCGGGCTTACTTAACAACACAGGGTTGGCC	4021
QY	4022	GTCGACAGGACATCTGAGGTTCTGGGAGAGGCTTTACAGGCTTCACCCACATAGAC	4081
Db	4022	GTCGACAGGACATCTGAGGTTCTGGGAGAGGCTTTACAGGCTTCACCCACATAGAC	4081
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Db	4082	GC	CA	TTTCTTGTCC	CAAGCTAA	GAGGAGAG	CAACTTCC	CTACTG	TGACATAC	4141
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Db	4142	CAG	GCTACG	GTGTGGCC	CAGGGCTCAG	GCTCACC	TTCATG	TGTGG	ACCAATGTGGAG	4201
Qy	4202	TG	CTCATC	CGGCTTAA	AGCTTACG	CTGACG	GGGCCAAG	CGCCCTG	CTATATAGCTGGGA	4261
Db	4202	TG	CTCATC	CGGCTTAA	AGCTTACG	CTGACG	GGGCCAAG	CGCCCTG	CTATATAGCTGGGA	4261
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Db	4262	GC	CGTTCAAA	CGAGTTT	ACTACAC	CAACCC	CTATACCA	ATACAT	CATGAGCATG	4321
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Db	4322	TG	GCTGAC	CTGAGAG	GTCACG	AGCCTTGG	TGAGG	CGGAGTCTTACAGCT	4381	
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Db	4382	CT	GCGCGG	GTATTTG	CTGACAA	CAGGGCG	GGGTGATTTG	GGGCGAG	ATCATCTTGTCC	4441
Qy	4442	GG	AAAGCCG	GCATCAT	TCCCGAC	CAGGAGTCTT	TACCGG	AGTTGAT	GATGAGTGA	4501
Db	4442	GG	AAAGCCG	GCATCAT	TCCCGAC	CAGGAGTCTT	TACCGG	AGTTGAT	GATGAGTGA	4501
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Db	4502	GAG	TGCGCTCA	CACCTCC	CTTACATG	CAACAGG	AAATG	CAGCTCC	CGCAATTC	4561
Qy	4562	CAG	AAAGCAAT	CGGGTTG	CTGCAAA	CAGGACCA	AGGAGG	CGTGTG	CTCCGTG	4621
Db	4562	CAG	AAAGCAAT	CGGGTTG	CTGCAAA	CAGGACCA	AGGAGG	CGTGTG	CTCCGTG	4621
Qy	4622	GT	GAAATCCA	GTGGCGG	ACCTCGA	AGCCTTGG	GGGAA	GCAATAT	GGAATTTATC	4681
Db	4622	GT	GAAATCCA	GTGGCGG	ACCTCGA	AGCCTTGG	GGGAA	GCAATAT	GGAATTTATC	4681
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Qy	5042	GG	CGCCCTTA	GTCG	CGGGTCTGT	GGCAG	CCATATCT	GTCG	CGGCACTGGGCC	5101
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[illegible][illegible]

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Qy      7322 AATGACATCCGTTGAGGAGTCAATCTAACAAATGTTGACTTGGCCCCCGAAGCCAGA 7381
Db      7322 AATGACATCCGTTGAGGAGTCAATCTAACAAATGTTGACTTGGCCCCCGAAGCCAGA 7381
Qy      7382 CAGGCGATTAAGTTCGCTCAAGAGCGGCTTTACATCGGAGGCGCCCTGACTAATTTCTAA 7441
Db      7382 CAGGCGATTAAGTTCGCTCAAGAGCGGCTTTACATCGGAGGCGCCCTGACTAATTTCTAA 7441
Qy      7442 GGGCGAACTGCGGCTATCGCGGTGCGCGGAGCGGCTGTACTGAGCAACAGTCCGCT 7501
Db      7442 GGGCGAACTGCGGCTATCGCGGTGCGCGGAGCGGCTGTACTGAGCAACAGTCCGCT 7501
Qy      7502 AATAACCTCACAATGTTACTTGAAGCGCGTGGCGCTGTCGAGCGTGGAGGCTCCAGGAC 7561
Db      7502 AATAACCTCACAATGTTACTTGAAGCGCGTGGCGCTGTCGAGCGTGGAGGCTCCAGGAC 7561
Qy      7562 TGACAGATGCTCGTATGCGAGACGACCTTGTCTGTTATCTGTGAAGCGCGGAGCCCA 7621
Db      7562 TGACAGATGCTCGTATGCGAGACGACCTTGTCTGTTATCTGTGAAGCGCGGAGCCCA 7621
Qy      7622 GAGACAGAGGCGGCTTACGAGGCGCTTACGAGGCTTATGACTAGTACTCTGCCCCCT 7681
Db      7622 GAGACAGAGGCGGCTTACGAGGCGCTTACGAGGCTTATGACTAGTACTCTGCCCCCT 7681
Qy      7682 GGGGACCGGCCCAACGAAATAGSACTTGAAGTTGATTAATCATGCTCTCCAAATGTG 7741
Db      7682 GGGGACCGGCCCAACGAAATAGSACTTGAAGTTGATTAATCATGCTCTCCAAATGTG 7741
Qy      7742 TCAGTGCGGACGATGATCTGCGCAAAAGGTTACTACTCACCGGTGACCCACCAACC 7801
Db      7742 TCAGTGCGGACGATGATCTGCGCAAAAGGTTACTACTCACCGGTGACCCACCAACC 7801
Qy      7802 CCCCTTGGCGGGGCTGCGTGGAGACAGCTAGACACTCCAGTCAATTTCTGGCTAGGC 7861
Db      7802 CCCCTTGGCGGGGCTGCGTGGAGACAGCTAGACACTCCAGTCAATTTCTGGCTAGGC 7861
Qy      7862 AACATCAATCATGTAATGCGGCAACCTGTGGGCAAGATGATCCGAGATCTTCTTC 7921
Db      7862 AACATCAATCATGTAATGCGGCAACCTGTGGGCAAGATGATCCGAGATCTTCTTC 7921
Qy      7922 TCCATCTCTTACGCTCAGGAACAATTGAAAAAGCCCTGATGTTGAGATCTAAGGGGCC 7981
Db      7922 TCCATCTCTTACGCTCAGGAACAATTGAAAAAGCCCTGATGTTGAGATCTAAGGGGCC 7981
Qy      7982 TGTATCTCCATTTGAGGCACTTGACCTCAATCATTAATCAAGACTCCAGGCGCTTACG 8041
Db      7982 TGTATCTCCATTTGAGGCACTTGACCTCAATCATTAATCAAGACTCCAGGCGCTTACG 8041
Qy      8042 GCATTTTCACTCCATGTTACTCTCAGAGTGAATCAATAGGCTGCTTCAAGCTCAGG 8101
Db      8042 GCATTTTCACTCCATGTTACTCTCAGAGTGAATCAATAGGCTGCTTCAAGCTCAGG 8101

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Qy      8102 AAACCTTGGGGTACCGCCCTTGGAGTCTGAGAGACTCCGAGGAGAGTGTCCGCGCTAG 8161
Db      8102 AAACCTTGGGGTACCGCCCTTGGAGTCTGAGAGACTCCGAGGAGAGTGTCCGCGCTAG 8161
Qy      8162 CTACTGTCCCAAGGGGGAGAGGCTGCGCACTTGTGCAAGTACTCTTCAACTGGGAGTA 8221
Db      8162 CTACTGTCCCAAGGGGGAGAGGCTGCGCACTTGTGCAAGTACTCTTCAACTGGGAGTA 8221
Qy      8222 AGAACCAAGCTCAAACTCACTCAATCCGAGCTGGTCCGAGTTGATTAATCCAGCTGG 8281
Db      8222 AGAACCAAGCTCAAACTCACTCAATCCGAGCTGGTCCGAGTTGATTAATCCAGCTGG 8281
Qy      8282 TTGCTTGTGTTACAGCGGGGAGACATATATACAGCTGTCTGTGCGCCGACCCCGC 8341
Db      8282 TTGCTTGTGTTACAGCGGGGAGACATATATACAGCTGTCTGTGCGCCGACCCCGC 8341
Qy      8342 TGTTCACGTGTGCTTACTCTTACTTCTGTAGGGGTAGGCAATCTATCTATCTCCCAAC 8401
Db      8342 TGTTCACGTGTGCTTACTCTTACTTCTGTAGGGGTAGGCAATCTATCTATCTCCCAAC 8401
Qy      8402 CGATGAACGGGGAGCTAAACACTCAGGCGCAATAGGCCATCTGTTTTTCCCTTTT 8461
Db      8402 CGATGAACGGGGAGCTAAACACTCAGGCGCAATAGGCCATCTGTTTTTCCCTTTT 8461
Qy      8462 CCGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTCCCGCCCTTTT 8521
Db      8462 TTTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT-----TTTTT 8511
Qy      8522 TCCCTTTTTTTTTTCTTTTCTTTCTTTGTTGCTTCATCTTAAAGCTTCAAGGCTA 8581
Db      8522 TTTCTTTTTTTTTTCTTTTCTTTCTTTGTTGCTTCATCTTAAAGCTTCAAGGCTA 8571
Qy      8582 GCTGTGAAGGTCGCTAGACGCGCTTGACTGAGAGAGTCTGATACGTGCGCTCTGAG 8641
Db      8572 GCTGTGAAGGTCGCTAGACGCGCTTGACTGAGAGAGTCTGATACGTGCGCTCTGAG 8631
Qy      8642 ATCAAGT 8648
Db      8632 ATCAAGT 8638

```

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RESULT 3
US-10-789-355-4-COPY
: Sequence 4, Application US/10789355
: GENERAL INFORMATION:
: APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
: TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
: FILE REFERENCE: 13/083
: CURRENT APPLICATION NUMBER: US/10/789,355
: PRIOR FILING DATE: 2001-12-21
: PRIOR APPLICATION NUMBER: 60/257,857
: NUMBER OF SEQ ID NOS: 25
: SOFTWARE: FastSeq for Windows Version 4.0
: SEQ ID NO 4
: LENGTH: 8643
: TYPE: DNA
: ORGANISM: HCV
: FEATURE:
: NAME/KEY: CDS
: LOCATION: (1802)...(8407)
US-10-789-355-4-COPY

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Query Match 99.3%; Score 8584.7; DB 1; Length 8643;
Best Local Similarity 99.6%; Pred. No. 0;
Matches 8614; Conservative 0; Mismatches 28; Indels 5; Gaps 1;
2 CCAAGCCCGGATTTGGGGGCAACTCCAGATGATCACTCCCTGTGAGAGAACTACTGT 61

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Db      2 CCAGCCCCGATTTGGGGGCGACATCCACCATATGATCACTCCCTGTGAGAACTATCTGT 61
QY      62 CTTTACGACGAAAGCGCTTAGCCATGGCCGTTAGTATGATGTCGTGACCTCCAGAAC 121
Db      62 CTTTACGACGAAAGCGCTTAGCCATGGCCGTTAGTATGATGTCGTGACCTCCAGAAC 121
QY      122 CCCCCCTCCCGGAGAGCAATAGTGTCTGCGGAAACCGGTAGATACACCGAAATTGGCAG 181
Db      122 CCCCCCTCCCGGAGAGCAATAGTGTCTGCGGAAACCGGTAGATACACCGAAATTGGCAG 181
QY      182 AGGACCGGGTCTCTTTTGTGATCAACCCGCTCATATGCTGTGAGATTTGGGCGTCCCG 241
Db      182 AGGACCGGGTCTCTTTTGTGATCAACCCGCTCATATGCTGTGAGATTTGGGCGTCCCG 241
QY      242 CGAGACTGTCTAGCCGAGTATGTTGGGTGCGGAAAGGACCTTGTGGTACTGTGATAGG 301
Db      242 CGAGACTGTCTAGCCGAGTATGTTGGGTGCGGAAAGGACCTTGTGGTACTGTGATAGG 301
QY      302 TGTCTTGCAGATGCCCCCGGAGGCTTCTGTAGACCGTGACCATGAGCAGAACTCTAAAC 361
Db      302 TGTCTTGCAGATGCCCCCGGAGGCTTCTGTAGACCGTGACCATGAGCAGAACTCTAAAC 361
QY      362 TCAAGAAAAAACCAAGGCGCGCCCATGATTTGAACAAGATTTGACGCGAGTTCTCC 421
Db      362 TCAAGAAAAAACCAAGGCGCGCCCATGATTTGAACAAGATTTGACGCGAGTTCTCC 421
QY      422 GGCCTGTTGGGTGAGAGGCTATTGCGCTATGATGCGGCAACAAGACAAATGCGCTGCTC 481
Db      422 GGCCTGTTGGGTGAGAGGCTATTGCGCTATGATGCGGCAACAAGACAAATGCGCTGCTC 481
QY      482 TGAATCCCGCGCTTCCGCTGTCAAGCGAGGGGCGCCGCTTCTTTTGTCAAGACGA 541
Db      482 TGAATCCCGCGCTTCCGCTGTCAAGCGAGGGGCGCCGCTTCTTTTGTCAAGACGA 541
QY      542 CCTGTCCGGTGCCTGAATGAATCTGACAGGACGCGGCGCTATGCTGTGCTGCGCAC 601
Db      542 CCTGTCCGGTGCCTGAATGAATCTGACAGGACGCGGCGCTATGCTGTGCTGCGCAC 601
QY      602 GACGGGCGCTTCCCTTGCAGAGCTGTGCTGACGTTTCTCACTGAAGCGGAAAGGACTG 661
Db      602 GACGGGCGCTTCCCTTGCAGAGCTGTGCTGACGTTTCTCACTGAAGCGGAAAGGACTG 661
QY      662 GCTATTTGGCGGAAGTCCGCGGCGAGAACTCTCTGTCACTCACTTGTCTCTGCGGAA 721
Db      662 GCTATTTGGCGGAAGTCCGCGGCGAGAACTCTCTGTCACTCACTTGTCTCTGCGGAA 721
QY      722 AGTATCCATCATGCTGATGCAATGCGGCGGCTGATAGCTTATCCGCTTACTGCTG 781
Db      722 AGTATCCATCATGCTGATGCAATGCGGCGGCTGATAGCTTATCCGCTTACTGCTG 781
QY      782 ATTGACCAACAAGGAAACATTCGATGAGCGAGCAGTACTCGGATGAGAACCGGCT 841
Db      782 ATTGACCAACAAGGAAACATTCGATGAGCGAGCAGTACTCGGATGAGAACCGGCT 841
QY      842 TGTGATAGGATATCTGGAAGAAAGCATCAGGGGTCCGCGCAGCCGAATGTTGCG 901
Db      842 TGTGATAGGATATCTGGAAGAAAGCATCAGGGGTCCGCGCAGCCGAATGTTGCG 901
QY      902 CAGACTCAAGGCGGCGATGCGCGAGAGATCTGTCGTGACCCATGCGCATGCTG 961
Db      902 CAGACTCAAGGCGGCGATGCGCGAGAGATCTGTCGTGACCCATGCGCATGCTG 961
QY      962 CTTTCCCGGAATTCATGTTGGAATAATGCGCTTCTGTGATTCATGATGCTGCGGCT 1021
Db      962 CTTTCCCGGAATTCATGTTGGAATAATGCGCTTCTGTGATTCATGATGCTGCGGCT 1021
QY      1022 GGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTAACCGGTATTTGTGAAGCT 1081
Db      1022 GGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTAACCGGTATTTGTGAAGCT 1081
QY      1082 TGGGCGGGAATGAGCTGACCGCTTCTGTGCTTTACGATTCGCGCGCTCCGATTCGA 1141
Db      1082 TGGGCGGGAATGAGCTGACCGCTTCTGTGCTTTACGATTCGCGCGCTCCGATTCGA 1141
QY      1142 GCGATGCGCTTCTATGCGCTTCTTGAAGAGTTCTTGAAGTTGCGCCGAGATGTTAAC 1201
Db      1142 GCGATGCGCTTCTATGCGCTTCTTGAAGAGTTCTTGAAGTTGCGCCGAGATGTTAAC 1201
QY      1202 AGACCAACAAGGCTTCCCTCTAGGCGGATCAATTCGCGCCCCCCCCCTTAAGTTACTG 1261
Db      1202 AGACCAACAAGGCTTCCCTCTAGGCGGATCAATTCGCGCCCCCCCCCTTAAGTTACTG 1261
QY      1262 CGAAGCGGCTTGAATAAGGCGGCTGTGCGTTGTCTATATGTTATTTTCACCATATTG 1321
Db      1262 CGAAGCGGCTTGAATAAGGCGGCTGTGCGTTGTCTATATGTTATTTTCACCATATTG 1321
QY      1322 CCGTCTTTTGGCAATGTAAGGCGCCGGAACCTGCGCTGTCTTCTTGAAGCATTCCT 1381
Db      1322 CCGTCTTTTGGCAATGTAAGGCGCCGGAACCTGCGCTGTCTTCTTGAAGCATTCCT 1381
QY      1382 AGGGGTCTTTCCTCCCTCGCCAAAGGAATGCAAGTCTGTAGCGACCTTTGCAAGGAGCA 1441
Db      1382 AGGGGTCTTTCCTCCCTCGCCAAAGGAATGCAAGTCTGTAGCGACCTTTGCAAGGAGCA 1441
QY      1442 GTTCTCTGGAAGCTTCTTGAAGCAACAACGCTGTAGCGACCTTTGCAAGGAGCG 1501
Db      1442 GTTCTCTGGAAGCTTCTTGAAGCAACAACGCTGTAGCGACCTTTGCAAGGAGCG 1501
QY      1502 AACCCCCACCTGCGCAGAGTCTCTGCGCCAAAGCAGCTGTATTAATTAACCT 1561
Db      1502 AACCCCCACCTGCGCAGAGTCTCTGCGCCAAAGCAGCTGTATTAATTAACCT 1561
QY      1562 GCAAGGCGGACAAACCCAGTCCACGTTGTAGTTGATGTTGGAAGAGTCAAA 1621
Db      1562 GCAAGGCGGACAAACCCAGTCCACGTTGTAGTTGATGTTGGAAGAGTCAAA 1621
QY      1622 TGGCTCTCTCAAGCGTATTCAACAAGGGCTGAAGATGCCCAGAAAGTACCCATTGT 1681
Db      1622 TGGCTCTCTCAAGCGTATTCAACAAGGGCTGAAGATGCCCAGAAAGTACCCATTGT 1681
QY      1682 ATGGGAATCTGATCTGGGGGCTCGGTGCAACATGCTTACATGTTTATGTCGAGTTAAA 1741
Db      1682 ATGGGAATCTGATCTGGGGGCTCGGTGCAACATGCTTACATGTTTATGTCGAGTTAAA 1741
QY      1742 AACGTCTAGGCCCCCGGAAACAAGGGAGGTGTTTCTTTGAAAAACGATTAATACC 1801
Db      1742 AACGTCTAGGCCCCCGGAAACAAGGGAGGTGTTTCTTTGAAAAACGATTAATACC 1801
QY      1802 ATGGAACCGGGAATGACAGATGTCGCGAGGCGGCTTTGTGAGTCTGATCTCTTG 1861
Db      1802 ATGGAACCGGGAATGACAGATGTCGCGAGGCGGCTTTGTGAGTCTGATCTCTTG 1861
QY      1862 ACCCTGTACCGGACATATAAGCTGTTCTCGCTAGGCTCATATGTTGTTACAATATTTT 1921
Db      1862 ACCCTGTACCGGACATATAAGCTGTTCTCGCTAGGCTCATATGTTGTTACAATATTTT 1921
QY      1922 ATCACAAGGCGCGAGGACACTTGAAGTGTGATCCCCCTCAACCTTTCGCGGGGCG 1981
Db      1922 ATCACAAGGCGCGAGGACACTTGAAGTGTGATCCCCCTCAACCTTTCGCGGGGCG 1981
QY      1982 CCGGATGCGGTATCTCTCTCAAGTGTGCGGATCCCAAGACTATCTTTACATCAC 2041
Db      1982 CCGGATGCGGTATCTCTCTCAAGTGTGCGGATCCCAAGACTATCTTTACATCAC 2041
QY      2042 AAAATCTTCTGCGCATATCTGCTCACTGATGATGCTCAGGCTGTGATTAACAAAGTG 2101
Db      2042 AAAATCTTCTGCGCATATCTGCTCACTGATGATGCTCAGGCTGTGATTAACAAAGTG 2101
QY      2102 CCGTATTTTGTGGGCGACAGGGCTCAATTGTGATGATGCTGTGCGAAGGTTGCT 2161
Db      2102 CCGTATTTTGTGGGCGACAGGGCTCAATTGTGATGATGCTGTGCGAAGGTTGCT 2161
QY      2162 GGGGCTCATTTATGTCAAAATGCTCTCAATGAAGTTGGCGCATGATCGTACGTT 2221
Db      2162 GGGGCTCATTTATGTCAAAATGCTCTCAATGAAGTTGGCGCATGATCGTACGTT 2221
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2222 TATGACATCTGACCCCACTGGGGAGCTGGGCCAAGCGGGCTTACGAGACCTTGGCGTG 2281
2222 TATGACATCTGACCCCACTGGGGAGCTGGGCCAAGCGGGCTTACGAGACCTTGGCGTG 2281
2282 GCAAGTTGAGCCCGTGCTTCTCTGTATATGAGACCAAGGTTTATCACTGGGGGGGAGAC 2341
2282 GCAAGTTGAGCCCGTGCTTCTCTGTATATGAGACCAAGGTTTATCACTGGGGGGGAGAC 2341
2342 ACCGCGCGGTGTGGGAGACATCATCTTGGGCTTGGCGCTTCGCGCGAGGGGGAGGGAG 2401
2342 ACCGCGCGGTGTGGGAGACATCATCTTGGGCTTGGCGCTTCGCGCGAGGGGGAGGGAG 2401
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2462 ACGGCTTACTCCCAACAGACGCGGAGCTTATGGCTGATCATCACTAGCTCAAGGC 2521
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2522 CGGACAGAAACAGGTGAGGGGGAGGTCAAGTGTCTCCACCGCAACCAATCTTTC 2581
2522 CGGACAGAAACAGGTGAGGGGGAGGTCAAGTGTCTCCACCGCAACCAATCTTTC 2581
2582 CTGGGACCTGGGTCAATGGCGGTGTGTGGAATGTCTATCATGGTGGCGGCTCAAGAC 2641
2582 CTGGGACCTGGGTCAATGGCGGTGTGTGGAATGTCTATCATGGTGGCGGCTCAAGAC 2641
2642 CTGGCGGCGCCAAAGGGCCCAATACCCAAATGTACCAAAATGTGAACAAGACCTCGTC 2701
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2702 GAGTGGCAGCGCCCCCGGGGGCGGTTCTTTGACACCATGACCTGGCGAGCTCGAGC 2761
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2762 CTTTACTTGTGTACAGAGCATGCGCATGTCTATTCGGGTGCGCGGGGGGAGCAGCAGG 2821
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2822 GGGAGCTTACTCTCCCGGAGCGCGCTCTCTATTTGAAGGGCTCTGGGGGGGTCTCACTG 2881
2822 GGGAGCTTACTCTCCCGGAGCGCGCTCTCTATTTGAAGGGCTCTGGGGGGGTCTCACTG 2881
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2942 GCGAAGGGGTGTGACTTGTGTACCGGTGAGTCTATGTGAACCACTATGCGGTCCCGGTC 3001
3002 TTCAAGGACACTGTCCTCCCGGAGCGGTCTCTATTTGAAGGGCTCTGGGGGGGTCTCAAC 3061
3002 TTCAAGGACACTGTCCTCCCGGAGCGGTCTCTATTTGAAGGGCTCTGGGGGGGTCTCAAC 3061
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3062 GCCCTTACTGTGTACCGGACAGACCTTAAGGTGCGGGCTGTATGAGCCCAAGGGAT 3121
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4322 TCGGCTGACCTGAGAGGTGTGACAGAGCACTGTGAGTGTGTGAGGCGGAGCTTACAGCT 4381
4382 CTGGCGCGGTATGTGCTGTGACAGAGGAGGTGTGATTTGGGAGAGATCTTGTCC 4441
4382 CTGGCGCGGTATGTGCTGTGACAGAGGAGGTGTGATTTGGGAGAGATCTTGTCC 4441

D	4382	CTGGCCGCGATTGTGCTGACAACAGGCAAGTGTCATTGTGGCAGATCATCTTGTCC	4441
Q	4442	GGAAAGCCGGCCATCATTTCCCGACAGGGAAGTCCTTTACCGGAGTTGATGATGAA	4501
D	4442	GGAAAGCCGGCCATCATTTCCCGACAGGGAAGTCCTTTACCGGAGTTGATGATGAA	4501
Q	4502	GAGTGGCTTCACACCTCCCTTACATGAAACAGGGAATGACGTGCGGAACAATTCAAA	4561
D	4502	GAGTGGCTTCACACCTCCCTTACATGAAACAGGGAATGACGTGCGGAACAATTCAAA	4561
Q	4562	CAGAGGCAATGGGTGCTGCAAAACGCTCACCAAGCAAGCGAGCTGCTCCGTG	4621
D	4562	CAGAGGCAATGGGTGCTGCAAAACGCTCACCAAGCAAGCGAGCTGCTCCGTG	4621
Q	4622	GTGGAATCCAGTGGCGGACCCCTGAAAGCTCTGGGCGAACAATATGGAATTTTCATC	4681
D	4622	GTGGAATCCAGTGGCGGACCCCTGAAAGCTCTGGGCGAACAATATGGAATTTTCATC	4681
Q	4682	AGCGGGATCAATATTTAGACAGGCTTGTCTACTCTGCGCAACCCGCGATAGCATCA	4741
D	4682	AGCGGGATCAATATTTAGACAGGCTTGTCTACTCTGCGCAACCCGCGATAGCATCA	4741
Q	4742	CTGATGGCAATTCACAGCTCTATACACAGCCGCTCACCAACCAATACCTCTGTTT	4801
D	4742	CTGATGGCAATTCACAGCTCTATACACAGCCGCTCACCAACCAATACCTCTGTTT	4801
Q	4802	AACATCTGGGGGAGATGGGTGGCGGCCCAACTGTCTCCCGAGGGCTTGTGCTTTC	4861
D	4802	AACATCTGGGGGAGATGGGTGGCGGCCCAACTGTCTCCCGAGGGCTTGTGCTTTC	4861
Q	4862	GTAGGCGCGGAGATCGCTGAGACGCGCTGTGACACATAGCCTTGGAGAGTGTGTG	4921
D	4862	GTAGGCGCGGAGATCGCTGAGACGCGCTGTGACACATAGCCTTGGAGAGTGTGTG	4921
Q	4922	GATATTTTGGAGGTTATGAGACAGGGGTGAGCGCGCTGTGAGCTTTAAGTCATG	4981
D	4922	GATATTTTGGAGGTTATGAGACAGGGGTGAGCGCGCTGTGAGCTTTAAGTCATG	4981
Q	4982	AGCGGCGAGATGCTCTCCACGAGACCTGGTTAACTCTCCCTATCTCTCCCT	5041
D	4982	AGCGGCGAGATGCTCTCCACGAGACCTGGTTAACTCTCCCTATCTCTCCCT	5041
Q	5042	GGCGCCCTAGTGTGTGGGTGTGTGCGCAAGCATATCTGCTCGGACGTGGGCCAGG	5101
D	5042	GGCGCCCTAGTGTGTGGGTGTGTGCGCAAGCATATCTGCTCGGACGTGGGCCAGG	5101
Q	5102	GAGGGGCTGTGCAAGTGAACCGGCTGATAGGCTTGCTTGCGGGGGTAAACAAGTC	5161
D	5102	GAGGGGCTGTGCAAGTGAACCGGCTGATAGGCTTGCTTGCGGGGGTAAACAAGTC	5161
Q	5162	TCCCCACGCACTATGTGCTGAGAGCGCTGACGACGCTGTCACTCAGATCTCTCT	5221
D	5162	TCCCCACGCACTATGTGCTGAGAGCGCTGACGACGCTGTCACTCAGATCTCTCT	5221
Q	5222	AGCTTACATCACTCAGCTGCTGAAGAGCTTCAACAGTGAATCAACAGAGACTGCTCC	5281
D	5222	AGCTTACATCACTCAGCTGCTGAAGAGCTTCAACAGTGAATCAACAGAGACTGCTCC	5281
Q	5282	ACGCGATGCTCGGCTCGTGGCTAAGAGATGTTGGATTGGGATATGCAAGGTGTACT	5341
D	5282	ACGCGATGCTCGGCTCGTGGCTAAGAGATGTTGGATTGGGATATGCAAGGTGTACT	5341
Q	5342	GATTTCAAGACTGTGCTCAAGCTCTGCGCGGATTTGCGGGAGTCCCTTTCTTC	5401
D	5342	GATTTCAAGACTGTGCTCAAGCTCTGCGCGGATTTGCGGGAGTCCCTTTCTTC	5401
Q	5402	TCAATGTAAGCGTGGTCAAGAGAGTCTGGGCGGCGACGCGCATATGCAAAACCACTGC	5461
D	5402	TCAATGTAAGCGTGGTCAAGAGAGTCTGGGCGGCGACGCGCATATGCAAAACCACTGC	5461
Q	5462	CCATGTGAGACAGATCAACGCGACATGTGAAAACTGTTCAATGAGATCGTGGGCT	5521
D	5462	CCATGTGAGACAGATCAACGCGACATGTGAAAACTGTTCAATGAGATCGTGGGCT	5521

Q	5522	AGACCTGTAGTAAACAGTGGCATGAAACATTTCCCATTTAACCGGTACACACGGGCCCC	5581
D	5522	AGACCTGTAGTAAACAGTGGCATGAAACATTTCCCATTTAACCGGTACACACGGGCCCC	5581
Q	5582	TGCAAGCCCTCCCGGGGCGCAATTTATTTAGGGCGCTGTGGCGGCTGCTGAGAG	5641
D	5582	TGCAAGCCCTCCCGGGGCGCAATTTATTTAGGGCGCTGTGGCGGCTGCTGAGAG	5641
Q	5642	TACGTGAGGTTAGCGGGGTGGGGATTTTCACTAAGTGAAGGCGCATGACATGCAAC	5701
D	5642	TACGTGAGGTTAGCGGGGTGGGGATTTTCACTAAGTGAAGGCGCATGACATGCAAC	5701
Q	5702	GTAAAGTCCCGTGTCAAGTTCGCGCCCGAATTTCTTCAAGAAAGTGAATGGGTGCG	5761
D	5702	GTAAAGTCCCGTGTCAAGTTCGCGCCCGAATTTCTTCAAGAAAGTGAATGGGTGCG	5761
Q	5762	TTGACAGAGTAAAGCTGCAAGGGTGAACCCCTCTACAGGAGAGTCAATTCCTGTG	5821
D	5762	TTGACAGAGTAAAGCTGCAAGGGTGAACCCCTCTACAGGAGAGTCAATTCCTGTG	5821
Q	5822	GGGCTCAATCAATACCTGTTGGGTCAACAGCTCCATGCGAGCCGGAACCGAGTAC	5881
D	5822	GGGCTCAATCAATACCTGTTGGGTCAACAGCTCCATGCGAGCCGGAACCGAGTAC	5881
Q	5882	GTGCTCATCTTCATGTCAACGACCCCTCCACATTAAGCGGAGACGGCTAAGCGTAA	5941
D	5882	GTGCTCATCTTCATGTCAACGACCCCTCCACATTAAGCGGAGACGGCTAAGCGTAA	5941
Q	5942	CTGGCCAGGGGATCTCCCTCTCTGGGAGCATATGAGCTGACAGCTGTGCGGCC	6001
D	5942	CTGGCCAGGGGATCTCCCTCTCTGGGAGCATATGAGCTGACAGCTGTGCGGCC	6001
Q	6002	TCCTTGAAGGCAACATGCACTACCCGTCAATGACTCCCGGACGCTGATCGAGGCC	6061
D	6002	TCCTTGAAGGCAACATGCACTACCCGTCAATGACTCCCGGACGCTGATCGAGGCC	6061
Q	6062	AACCTCTGTGGGAGGAGAGATGGCGGGAAACATACCCGCTGAGTCAAAAATAAG	6121
D	6062	AACCTCTGTGGGAGGAGAGATGGCGGGAAACATACCCGCTGAGTCAAAAATAAG	6121
Q	6122	GTAGTATTTTGGACTCTTTCAGAGCGCTTCAAGCGGAGGAGATGAGAGGAAATATC	6181
D	6122	GTAGTATTTTGGACTCTTTCAGAGCGCTTCAAGCGGAGGAGATGAGAGGAAATATC	6181
Q	6182	GTTCCGCGGAGATCTGTGGAGGTCAAGAAATTCCTTCGAGCGATGCCATATGGCA	6241
D	6182	GTTCCGCGGAGATCTGTGGAGGTCAAGAAATTCCTTCGAGCGATGCCATATGGCA	6241
Q	6242	CGCCCGGATTTACAAACCTGCACTGTAGAGTCTGGAAGGACCGGACCTACGCTCTCA	6301
D	6242	CGCCCGGATTTACAAACCTGCACTGTGTAGAGTCTGGAAGGACCGGACCTACGCTCTCA	6301
Q	6302	GTGTGACAGGGGTGTCATGTGCGCTGCAAGGCGCTCCGATACACTTCAACGAGG	6361
D	6302	GTGTGACAGGGGTGTCATGTGCGCTGCAAGGCGCTCCGATACACTTCAACGAGG	6361
Q	6362	AAGAGACGGTGTCTGTCAAGATTTACCGTGTCTTCTGCTGGCGGAGCTCGCCACA	6421
D	6362	AAGAGACGGTGTCTGTCAAGATTTACCGTGTCTTCTGCTGGCGGAGCTCGCCACA	6421
Q	6422	AAGACTTGGGAGCTCGAATCGTGGCGGTGCAAGCGGACCGGCAACGGGCTCTCCT	6481
D	6422	AAGACTTGGGAGCTCGAATCGTGGCGGTGCAAGCGGACCGGCAACGGGCTCTCCT	6481
Q	6482	GACAGCCCTTCGACGACGCGACGCGGATCGAGCTTGAAGTCTACTCTCAATGCC	6541
D	6482	GACAGCCCTTCGACGACGCGACGCGGATCGAGCTTGAAGTCTACTCTCAATGCC	6541
Q	6542	CCCTTGAAGGGGAGCCGGGGATCCCATCTCACGAGAGGCTTGGCTTACCGTAAGC	6601
D	6542	CCCTTGAAGGGGAGCCGGGGATCCCATCTCACGAGAGGCTTGGCTTACCGTAAGC	6601

QY	6602	AAGAGAGGCTAAGTGAAGAGAGTGTCTGTGCTGTGATGTCTTACACATGGAACAGGGCCCTTG	6661
Db	6602	GAGGAGGGCTAAGTGAAGAGAGTGTCTGTGCTGTGATGTCTTACACATGGAACAGGGCCCTTG	6661
QY	6662	ATCAGCGGCATGTGGCTGGAGGAACCAAGCTGCCATCATGTGACTGAGCAACTCTTGG	6721
Db	6662	ATCAGCGGCATGTGGCTGGAGGAACCAAGCTGCCATCATGTGACTGAGCAACTCTTGG	6721
QY	6722	CTCCGCTCAACCAACTTGTGTCTATGTCTCAACATCTCGACGGACGCTCGCAGAG	6781
Db	6722	CTCCGCTCAACCAACTTGTGTCTATGTCTCAACATCTCGACGGACGCTCGCAGAG	6781
QY	6782	AAGGTACCTTTGACAGACTGAGAGTCTGTGACGACACTACCGGGAAGTGTCTCAAGAG	6841
Db	6782	AAGGTACCTTTGACAGACTGAGAGTCTGTGACGACACTACCGGGAAGTGTCTCAAGAG	6841
QY	6842	ATGAAGGCGAAGGGCGCTCCAGTTAAAGCTTAACTTATCCGTGGAAGAGGCTGTAG	6901
Db	6842	ATGAAGGCGAAGGGCGCTCCAGTTAAAGCTTAACTTATCCGTGGAAGAGGCTGTAG	6901
QY	6902	CTGACGCCCCCACTTTCGCGCAGATCTTAAATTTGGCTATGGGGCAAGAGAGTCCGAGAC	6961
Db	6902	CTGACGCCCCCACTTTCGCGCAGATCTTAAATTTGGCTATGGGGCAAGAGAGTCCGAGAC	6961
QY	6962	CTATTCAGCAAGGCGGTTAACCACTCCGCTCCGTGTGAAGAGACTTGCTGGAAGACT	7021
Db	6962	CTATTCAGCAAGGCGGTTAACCACTCCGCTCCGTGTGAAGAGACTTGCTGGAAGACT	7021
QY	7022	GAGACACCAATTGACACCAACATCATGGCAAAAAATGAGTTTTCTGTGTCCAAACAGAG	7081
Db	7022	GAGACACCAATTGACACCAACATCATGGCAAAAAATGAGTTTTCTGTGTCCAAACAGAG	7081
QY	7082	AAGGGGGGCGCAAGCGAGCTCCGCTTATCGTATTCAGATTTGGGGGTTCCGTGTGCG	7141
Db	7082	AAGGGGGGCGCAAGCGAGCTCCGCTTATCGTATTCAGATTTGGGGGTTCCGTGTGCG	7141
QY	7142	GAGAAATAGCCCTTTTACATGTGTGTCCACCCCTCCCTCAGGCGGTGATGGGCTCTTCA	7201
Db	7142	GAGAAATAGCCCTTTTACATGTGTGTCCACCCCTCCCTCAGGCGGTGATGGGCTCTTCA	7201
QY	7202	TACGATTTCCAAATCTCTCTCTGGAACAGGGGTTGAGTTCTGTGTGAATGCTTGGAAAGCG	7261
Db	7202	TACGATTTCCAAATCTCTCTCTGGAACAGGGGTTGAGTTCTGTGTGAATGCTTGGAAAGCG	7261
QY	7262	AAGAAATGCCCTTATGGGCTTGCATATGACACCCGCTGTTTTGACTAAGGTATCTGAG	7321
Db	7262	AAGAAATGCCCTTATGGGCTTGCATATGACACCCGCTGTTTTGACTAAGGTATCTGAG	7321
QY	7322	AATGACATCCGTGTGGAAGAGTCAATTCACCAATGTTGTGACTTGGCCCCGGAACCGA	7381
Db	7322	AATGACATCCGTGTGGAAGAGTCAATTCACCAATGTTGTGACTTGGCCCCGGAACCGA	7381
QY	7382	CAGGCAATAGGTGGCTCAAGAGGGCTTTTACATCGGGGGCCCCCTGACTAATTCTTAA	7441
Db	7382	CAGGCAATAGGTGGCTCAAGAGGGCTTTTACATCGGGGGCCCCCTGACTAATTCTTAA	7441
QY	7442	GGGCAAGACTGGGCTATNCGCGGTGCGCGCGCGAGCGGTGATCTGAAGACCAAGTGGGGT	7501
Db	7442	GGGCAAGACTGGGCTATNCGCGGTGCGCGCGCGAGCGGTGATCTGAAGACCAAGTGGGGT	7501
QY	7502	AATACCCCTCAATGTTACTTGAAGGCGGCTGTGAGAGTGTGAGAGTCTCAAGAC	7561
Db	7502	AATACCCCTCAATGTTACTTGAAGGCGGCTGTGAGAGTGTGAGAGTCTCAAGAC	7561
QY	7562	TGCACGATGCTGTGATGGGAGAGCACTTGTGTTATCTGTGAAGCGCGGGACCCAA	7621
Db	7562	TGCACGATGCTGTGATGGGAGAGCACTTGTGTTATCTGTGAAGCGCGGGACCCAA	7621
QY	7622	GAGACAGAGGAGAGCTTACCGGGCCCTTACCGAAGGCTATGACTAATCTCGCCCCCT	7681
Db	7622	GAGACAGAGGAGAGCTTACCGGGCCCTTACCGAAGGCTATGACTAATCTCGCCCCCT	7681
QY	7682	GGGACCCCGCAACCAAGTAACGACTTGGAGTTGATACATCATGCTCTCCCAATGTG	7741

Db	7662	GGGAGCCGGCCAAACCGAATATGACATCTGGATGTTATATCATCATATGCTCTCCAAATGTG	7741
Qy	7742	TCAGTCGGGACAGATGCATCTGGCAAAAGGGTGTACTATCTCACCCGGTACCCCAAC	7801
Db	7742	TCAGTCGGGACAGATGCATCTGGCAAAAGGGTGTACTATCTCACCCGGTACCCCAAC	7801
Qy	7802	CCCTTGGCGCGGCTGCGTGGGAGACAGCTAGACACCTCCAGTCAATCTTCGGCTAGGC	7861
Db	7802	CCCTTGGCGCGGCTGCGTGGGAGACAGCTAGACACCTCCAGTCAATCTTCGGCTAGGC	7861
Qy	7862	AACATCATCATGTATGGGCGCCACCTGTGGGCAAGATGCCGTAGATGACATTTCTTC	7921
Db	7862	AACATCATCATGTATGGGCGCCACCTGTGGGCAAGATGCCGTAGATGACATTTCTTC	7921
Qy	7922	TCCATCTTCTAGCTCAGAGAACATTTGAAAAGCCCTAGATTGTCTAGATCTACGGGCGC	7981
Db	7922	TCCATCTTCTAGCTCAGAGAACATTTGAAAAGCCCTAGATTGTCTAGATCTACGGGCGC	7981
Qy	7982	TGTTATCTCCATTTAGGCCACTTGACCTTACATCATTTCAAGCATCTCCAGGCTTAGC	8041
Db	7982	TGTTATCTCCATTTAGGCCACTTGACCTTACATCATTTCAAGCATCTCCAGGCTTAGC	8041
Qy	8042	GCAATTTTCACTCCATTTAGTTACTCTCCAGAGTGAATCAATAGGGTGGCTTACATGCTCAGG	8101
Db	8042	GCAATTTTCACTCCATTTAGTTACTCTCCAGAGTGAATCAATAGGGTGGCTTACATGCTCAGG	8101
Qy	8102	AAACTTGGGGGTACCGCCCTTGGAGTCTGAGACATCGGGCCAGAAGCTGCCGCTAGG	8161
Db	8102	AAACTTGGGGGTACCGCCCTTGGAGTCTGAGACATCGGGCCAGAAGCTGCCGCTAGG	8161
Qy	8162	CTACTGTCCTCCAGGGGGGGAGGGGCGACATTTGGGCAAGTACCTCTTCACTGGGGCAGTA	8221
Db	8162	CTACTGTCCTCCAGGGGGGGAGGGGCGACATTTGGGCAAGTACCTCTTCACTGGGGCAGTA	8221
Qy	8222	AGGACCAAGCTCAAACTCATCTCCAACTCCGGCTGCTCCAGTTGAAATTAATCCAGCTGG	8281
Db	8222	AGGACCAAGCTCAAACTCATCTCCAACTCCGGCTGCTCCAGTTGAAATTAATCCAGCTGG	8281
Qy	8282	TTTCGTGTGGTTATCAGCGGGGGAGACATATATACAGCCGTGTCGTGGCCGACCCCGC	8341
Db	8282	TTTCGTGTGGTTATCAGCGGGGGAGACATATATACAGCCGTGTCGTGGCCGACCCCGC	8341
Qy	8342	TGTTTCAAGTGGTCTTACTTCTATCTGTATGGGGGTAGGACATCTATCTACTGCCAAC	8401
Db	8342	TGTTTCAAGTGGTCTTACTTCTATCTGTATGGGGGTAGGACATCTATCTACTGCCAAC	8401
Qy	8402	CGATGAACGGGGAGCTTAAACATCTCAGGCGCAATATAGCCATCTGTTTTTCCCTTTTTT	8461
Db	8402	CGATGAACGGGGAGCTTAAACATCTCAGGCGCAATATAGCCATCTGTTTTTCCCTTTTTT	8461
Qy	8462	CCCTTCCCGCCCTTTT	8521
Db	8462	TTTCCCGCCCTTTT	8521
Qy	8522	TCGCCCTTTTTTCTTTTTCTTTCTTTCTTTGGTGTCCATCTTAAGCCCTAGTCACGGCTA	8581
Db	8517	TTCCCAATTTTTTTCTTTTCTTTCTTTGGTGTCCATCTTAAGCCCTAGTCACGGCTA	8576
Qy	8582	GCTGTGAAGGTCCGTAGCGGCTTGTACTGACAGAGATGCTGATATCTGGGCTCTGTGAG	8641
Db	8577	GCTGTGAAGGTCCGTAGCGGCTTGTACTGACAGAGATGCTGATATCTGGGCTCTGTGAG	8636
Qy	8642	ATCAAGT 8648	
Db	8637	ATCAAGT 8643	

RESULT 4
US-10-789-355-7-COPY
; Sequence 7, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.

TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
FILE REFERENCE: 13/083
CURRENT FILING DATE: 2004-02-27
PRIOR APPLICATION NUMBER: US/10/029,907
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/257,857
NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 7
LENGTH: 8638
TYPE: DNA
ORGANISM: HCV
FEATURE:
NAME/KEY: CDS
LOCATION: (1802) ... (8407)
US-10-789-355-7-COPY

Query Match 99.2%; Score 8578.2; DB 1; Length 8638;

Best Local Similarity 99.6%; Pred. No. 0; Mismatches 28; Indels 10; Gaps 1;

Matches 8610; Conservative 0; Mismatches 28; Indels 10; Gaps 1;

QY 1 GCCAGCCCCGATTGGGGGCGACACTCCACCATAGATCACTCCCTGTGAGAACTACTG 60
DB 1 GCCAGCCCCGATTGGGGGCGACACTCCACCATAGATCACTCCCTGTGAGAACTACTG 60
QY 61 TCTTCACGCAAAAGCGTCTAGCCATGCGCTTATGATAGTGTGTGAGAGCTTCCAGAC 120
DB 61 TCTTCACGCAAAAGCGTCTAGCCATGCGCTTATGATAGTGTGTGAGAGCTTCCAGAC 120
QY 121 CCCCCCTCCGGGAGAGCCATAGTGTGTGAGAAACCGGTAGATACACCGAAATTGGCAG 180
DB 121 CCCCCCTCCGGGAGAGCCATAGTGTGTGAGAAACCGGTAGATACACCGAAATTGGCAG 180
QY 181 GACGACCGGGTCTCTTCTTGATCAACCCGCTCAATGCTGAGATTTGGCGTGCCTCC 240
DB 181 GACGACCGGGTCTCTTCTTGATCAACCCGCTCAATGCTGAGATTTGGCGTGCCTCC 240
QY 241 GCGGACTGTAGCCGAGTATGTTGGTCCGGAAGGCTTTGTGTACTGCTGATAGG 300
DB 241 GCGGACTGTAGCCGAGTATGTTGGTCCGGAAGGCTTTGTGTACTGCTGATAGG 300
QY 301 GTGCTTGAGATGCCCCGGGAGGTCTGTAGACCGTGCACCATAGACGCAATCCTAAC 360
DB 301 GTGCTTGAGATGCCCCGGGAGGTCTGTAGACCGTGCACCATAGACGCAATCCTAAC 360
QY 361 CTCAAGAAAAACCAAGGGCGCGCATGATTGAAACAGATGATGATGACGAGTTCTC 420
DB 361 CTCAAGAAAAACCAAGGGCGCGCATGATTGAAACAGATGATGATGACGAGTTCTC 420
QY 421 CCGGCGCTTGGGTGAGAGGCTATTGCGCTATGACTGGGCAACAGCAATCGCTGCT 480
DB 421 CCGGCGCTTGGGTGAGAGGCTATTGCGCTATGACTGGGCAACAGCAATCGCTGCT 480
QY 481 CTGATGCGCGCGTGTTCGCGCTGTCAAGCGGAGGCGCGGTTCTTTTGTCAAGACG 540
DB 481 CTGATGCGCGCGTGTTCGCGCTGTCAAGCGGAGGCGCGGTTCTTTTGTCAAGACG 540
QY 541 ACCTGTCCGGTGTCCCTGAATGAACTGACGAGAGCGCGGCTATCGTGGCTGGCA 600
DB 541 ACCTGTCCGGTGTCCCTGAATGAACTGACGAGAGCGCGGCTATCGTGGCTGGCA 600
QY 601 CGAGGGGGTTCCTTGGCGAGCTGTGTCAAGTTGTACTGAAGCGGAAAGGAACTGGC 660
DB 601 CGAGGGGGTTCCTTGGCGAGCTGTGTCAAGTTGTACTGAAGCGGAAAGGAACTGGC 660
QY 661 TGCTATTGGGAGAGTGCAGGAGATCTCTGTCACTCACTTGTCTCTGCGAGA 720
DB 661 TGCTATTGGGAGAGTGCAGGAGATCTCTGTCACTCACTTGTCTCTGCGAGA 720
QY 721 AAGTATCATCATGATGATGCAATGCGGCGGCTGATACCTTGTATCCGCTACCTGCC 780

DB 721 AAGTATCATCATGATGATGCAATGCGGCGGCTGATACCTTGTATCCGCTACCTGCC 780
QY 781 CATTCGACCAACCAAGCAACATCGCATGAGGAGAGTACTCTCGATGAGAACCCGCTC 840
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QY 841 TTGTGATCAGATGATCTGAGAGAGAGATCAGGGGCTCGCGCAGCCGAACCTGTCG 900
DB 841 TTGTGATCAGATGATCTGAGAGAGAGATCAGGGGCTCGCGCAGCCGAACCTGTCG 900
QY 901 CCAGGCTCAAGGGCGCATGCCGACGCGAGAGATCTGTGTGACCATGCGATGCT 960
DB 901 CCAGGCTCAAGGGCGCATGCCGACGCGAGAGATCTGTGTGACCATGCGATGCT 960
QY 961 GCTTCCGGAATATCATGATGAGAAATGCGCGCTTTTGTGATTCATGATCTGTGCG 1020
DB 961 GCTTCCGGAATATCATGATGAGAAATGCGCGCTTTTGTGATTCATGATCTGTGCG 1020
QY 1021 TTGGTGTGGGAGACCGCTATCAGGACATAGCGTTGCTACCCGATATGCTGAAGAGC 1080
DB 1021 TTGGTGTGGGAGACCGCTATCAGGACATAGCGTTGCTACCCGATATGCTGAAGAGC 1080
QY 1081 TTGGCGGCGAATGCGCTGACCGCTTCTGTGCTTTAAGGATTCGCGCTCCGATTGC 1140
DB 1081 TTGGCGGCGAATGCGCTGACCGCTTCTGTGCTTTAAGGATTCGCGCTCCGATTGC 1140
QY 1141 AGCGCATGCGCTTCTATGCGCTTCTGACGAGTCTCTGAGTTCGCGCCAGATGTTAA 1200
DB 1141 AGCGCATGCGCTTCTATGCGCTTCTGACGAGTCTCTGAGTTCGCGCCAGATGTTAA 1200
QY 1201 CAGACCAACAGGTTTCCCTCTAGCGGAGTCAATTCGCGCCCGCCCTTAACGTTACTG 1260
DB 1201 CAGACCAACAGGTTTCCCTCTAGCGGAGTCAATTCGCGCCCGCCCTTAACGTTACTG 1260
QY 1261 CCGAAGCGCTTGGAAATGAGCGGCTGTGCTGTCTATATGTTATTTTCAACATATT 1320
DB 1261 CCGAAGCGCTTGGAAATGAGCGGCTGTGCTGTCTATATGTTATTTTCAACATATT 1320
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DB 1321 GCGGCTTTTGGCAATGAGGCGCGGAAACCTGCGGCTCTTCTTGAACGACATTC 1380
QY 1381 TAGGGGCTTTTCCCTCTGCGCAAGAGATGCAAGGCTGTGATATGCTGAAGAGAGC 1440
DB 1381 TAGGGGCTTTTCCCTCTGCGCAAGAGATGCAAGGCTGTGATATGCTGAAGAGAGC 1440
QY 1441 AGTTCTCTGAAAGCTTCTTGAAGACAAACAGCTGTGAGCGACCTTTGACAGGCG 1500
DB 1441 AGTTCTCTGAAAGCTTCTTGAAGACAAACAGCTGTGAGCGACCTTTGACAGGCG 1500
QY 1501 GAAACCCCGCACTGCGGACAGGTGCTCTGCGGCAAAACCGAGTATTAATAC 1560
DB 1501 GAAACCCCGCACTGCGGACAGGTGCTCTGCGGCAAAACCGAGTATTAATAC 1560
QY 1561 TGCAAGAGCGGCAACCCAGTGCACGTTGTGATGATGATGATGATGATGATGATGAT 1620
DB 1561 TGCAAGAGCGGCAACCCAGTGCACGTTGTGATGATGATGATGATGATGATGATGAT 1620
QY 1621 ATGGCTCTCTCAAGCGTATTCAACAAAGGGGCTGAAGAGAGCCAGAAAGTATCCCAT 1680
DB 1621 ATGGCTCTCTCAAGCGTATTCAACAAAGGGGCTGAAGAGAGCCAGAAAGTATCCCAT 1680
QY 1681 TATGGATCTGATCTGAGGCGCTCGGTGACATCTTTACATGTTGTTAGTGAAGTTAAA 1740
DB 1681 TATGGATCTGATCTGAGGCGCTCGGTGACATCTTTACATGTTGTTAGTGAAGTTAAA 1740
QY 1741 AAACGTCTAGGCCCCCGGAGCAACGAGGAGCTGAGTTTCTTTGAAAAACAGATAATAC 1800
DB 1741 AAACGTCTAGGCCCCCGGAGCAACGAGGAGCTGAGTTTCTTTGAAAAACAGATAATAC 1800
QY 1801 CATGACCGGAGATGACGATCTGTGAGAGCGCGGTTTCTGTAGTCTGATCTCTT 1860

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Db      1801 CATGACCGGAGANTGAGCATGTCGAGGACGGGTTTTCGTAGCTGATACCTT 1860
Qy      1861 GACCTTTGACCGGACTATPAAGTGTCTCGTAGGCTCATATGATGTATCAATATTT 1920
Db      1861 GACCTTTGACCGGACTATPAAGTGTCTCGTAGGCTCATATGATGTATCAATATTT 1920
Qy      1921 TATGACGAGGCGGAGGACACTTGTGAATGTGATATCCCGCTCAAGCTTGGGGGG 1980
Db      1921 TATGACGAGGCGGAGGACACTTGTGAATGTGATATCCCGCTCAAGCTTGGGGGG 1980
Qy      1981 CCGGATGCGGATCTCTCTCACTGTCGCGGATCCACCGAGATTAATCTTAACTAC 2040
Db      1981 CCGGATGCGGATCTCTCTCTCACTGTCGCGGATCCACCGAGATTAATCTTAACTAC 2040
Qy      2041 GAAATCTTGTGCGCATATCTGATCTGATCTGATCTGATCTGATCTGATCTGATCT 2100
Db      2041 GAAATCTTGTGCGCATATCTGATCTGATCTGATCTGATCTGATCTGATCTGATCT 2100
Qy      2101 GCGGATCTGTCGCGGACACGCGGCTCATTTGATGATGATGTCGTCGCGAGGTTGC 2160
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Qy      2161 TGGGGGTCTATATGTCGAAATGCTCTATGAAGTTGGCGGACCTGACAGTACGT 2220
Db      2161 TGGGGGTCTATATGTCGAAATGCTCTATGAAGTTGGCGGACCTGACAGTACGT 2220
Qy      2221 TTATGACATCTCACCCCACTGCGGACCTGCGGCTTACAGACCTTGGCGT 2280
Db      2221 TTATGACATCTCACCCCACTGCGGACCTGCGGCTTACAGACCTTGGCGT 2280
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Qy      2341 CACCGCGGCTGTGGGAGCATCATCTTGGGCTGCGGCTGCGGCGGAGGAGGGA 2400
Db      2341 CACCGCGGCTGTGGGAGCATCATCTTGGGCTGCGGCTGCGGCGGAGGAGGGA 2400
Qy      2401 GATACATCTGGGACCGGACAGCGCTTGAAGGGGAGGTCGCTCTGCGGCTAT 2460
Db      2401 GATACATCTGGGACCGGACAGCGCTTGAAGGGGAGGTCGCTCTGCGGCTAT 2460
Qy      2461 TACGCGCTACTCCCAAGACGCGAGGCTTACTTGTGATCATCATCAGGCTCAAG 2520
Db      2461 TACGCGCTACTCCCAAGACGCGAGGCTTACTTGTGATCATCATCAGGCTCAAG 2520
Qy      2521 CCGGAGACGGAACGAGTTCGAGGGGAGGTCCAGTGTCTCCACCGAACCAATCTTT 2580
Db      2521 CCGGAGACGGAACGAGTTCGAGGGGAGGTCCAGTGTCTCCACCGAACCAATCTTT 2580
Qy      2581 CCTGCGACCTGCGTCAATGCGTGTGTCGCTGATCATGTCGCGGCTCAAGAC 2640
Db      2581 CCTGCGACCTGCGTCAATGCGTGTGTCGCTGATCATGTCGCGGCTCAAGAC 2640
Qy      2641 CTTTCCGCGCCCAAGGGCCCAATCACCCAATGTAACAACAATGTGACACAGACCTCGT 2700
Db      2641 CTTTCCGCGCCCAAGGGCCCAATCACCCAATGTAACAACAATGTGACACAGACCTCGT 2700
Qy      2701 CCGGCTGCGAGGCGCCCGCGGGGCGGTTCTTGAACAACATGCACTGCGGAGGCTCGGA 2760
Db      2701 CCGGCTGCGAGGCGCCCGCGGGGCGGTTCTTGAACAACATGCACTGCGGAGGCTCGGA 2760
Qy      2761 CTTTACTTGTGACGAGACATGCGATGTCAATCCGATGCGCGCGGGGAGACAGAG 2820
Db      2761 CTTTACTTGTGACGAGACATGCGATGTCAATCCGATGCGCGCGGGGAGACAGAG 2820
Qy      2821 GGGAGCCTTACTCTTCCCGGCGGCTCTCTACTTGAAGGCTTTTGGGCGGTCACT 2880
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Qy      2881 GCTGCGCCCTCGGGGACGCTGTGGGATCTTGTGGGCTGCGGCTGAGACCCAGGGGT 2940
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Qy      2941 TCGAAGGCGGTGAACCTTGTATCCCGTGAAGTATGAGGAACCATATGCGGTC 3000
Db      2941 TCGAAGGCGGTGAACCTTGTATCCCGTGAAGTATGAGGAACCATATGCGGTC 3000
Qy      3001 CTTTACGAGCACTGCTCCCTCCCGCGTACCGGACATTCAGGTGGCCATCTACA 3060
Db      3001 CTTTACGAGCACTGCTCCCTCCCGCGTACCGGACATTCAGGTGGCCATCTACA 3060
Qy      3061 CCGCCCTTCTGGTACGGGAGAGCACTAAGGTGCGGCTGTATGACAGCCCAAGGTA 3120
Db      3061 CCGCCCTTCTGGTACGGGAGAGCACTAAGGTGCGGCTGTATGACAGCCCAAGGTA 3120
Qy      3121 TAAAGTCTTGTCTGAAACCGGTCGCGGCAACCTTAGGTTTGGGGGCTATATGTC 3180
Db      3121 TAAAGTCTTGTCTGAAACCGGTCGCGGCAACCTTAGGTTTGGGGGCTATATGTC 3180
Qy      3181 TAAAGCATGTGTATGACACCTTACATGAAACCGGGGTAAAGACATACACAGGTC 3240
Db      3181 TAAAGCATGTGTATGACACCTTACATGAAACCGGGGTAAAGACATACACAGGTC 3240
Qy      3241 CCGCATGAGTACTCCATATGGAAGTTCTTGGCGACGTCGTCGTCGCGGCGG 3300
Db      3241 CCGCATGAGTACTCCATATGGAAGTTCTTGGCGACGTCGTCGTCGTCGCGGCGG 3300
Qy      3301 CTATGACATCAATATATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3360
Db      3301 CTATGACATCAATATATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3360
Qy      3361 CCGGACAGTCTTGGACCAAGGAGACGCGCTGAGCGGACCTGTCGTCGCGGCGG 3420
Db      3361 CCGGACAGTCTTGGACCAAGGAGACGCGCTGAGCGGACCTGTCGTCGCGGCGG 3420
Qy      3421 TACGCTCCGAGATCGGACCGGTCGACATCCAAACATGAGAGGTCGTCGTCGAG 3480
Db      3421 TACGCTCCGAGATCGGACCGGTCGACATCCAAACATGAGAGGTCGTCGTCGAG 3480
Qy      3481 CACTGAGAAATCCCTTTTATGCAAAAGCATCCCATTCAGACCATCAAGGGGGAG 3540
Db      3481 CACTGAGAAATCCCTTTTATGCAAAAGCATCCCATTCAGACCATCAAGGGGGAG 3540
Qy      3541 GCACTCATTTTTCGCAATTCAGAAAGATGAGATGAGTCGCGGAGAGTCGCGG 3600
Db      3541 GCACTCATTTTTCGCAATTCAGAAAGATGAGATGAGTCGCGGAGAGTCGCGG 3600
Qy      3601 CCTGGAACCTGACATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3660
Db      3601 CCTGGAACCTGACATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3660
Qy      3661 CCGAGACGTCTTGTGAGCAAGGACGCTCTATGACGCGGCTTTCAGGCGATTTGGA 3720
Db      3661 CCGAGACGTCTTGTGAGCAAGGACGCTCTATGACGCGGCTTTCAGGCGATTTGGA 3720
Qy      3721 CTGAGTATGATGCAATATATATGATGATGATGATGATGATGATGATGATGATGATGAT 3780
Db      3721 CTGAGTATGATGCAATATATATGATGATGATGATGATGATGATGATGATGATGATGAT 3780
Qy      3781 CTTACCATGAGACGAGACCGGTCCAAGAGCGGCTGACGTCGACGCGGAGG 3840
Db      3781 CTTACCATGAGACGAGACCGGTCCAAGAGCGGCTGACGTCGACGCGGAGG 3840
Qy      3841 CAGGACTGTGAGGAGGAGATGAGATTTTACAGTTTGTGATCTCAGAGAGACCGGCTC 3900
Db      3841 CAGGACTGTGAGGAGGAGATGAGATTTTACAGTTTGTGATCTCAGAGAGACCGGCTC 3900
Qy      3901 GGGATGTGTGATTCCTCGGTCGTCGAGTGTATGAGCGGGGCTGTGTGTGAG 3960
Db      3901 GGGATGTGTGATTCCTCGGTCGTCGAGTGTATGAGCGGGGCTGTGTGTGAG 3960
Qy      3961 GCTACGCGCGGAGACCTCAGTTAGTTGGGGCTTAACTTAAACACACAGGGTTGCC 4020
Db      3961 GCTACGCGCGGAGACCTCAGTTAGTTGGGGCTTAACTTAAACACACAGGGTTGCC 4020

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QY	4021	CGTCTGCCAGACCAATCTGGAGTTCTGGGAAAGCGTCTTTACAGGCTCACCCACATAGA	4080
Db	4021	CGTCTGCCAGACCAATCTGGAGTTCTGGGAGGCGCTTTACAGGCTCACCCACATAGA	4080
QY	4081	CGCCCATTTCTTGTCCTCCAGACTAAGCAGGACAGAGAACAATTCCCTTACCTGTAGCAT	4140
Db	4081	CGCCCATTTCTTGTCCTCCAGACTAAGCAGGACAGAGAACAACTTCCCTTACCTGTAGCAT	4140
QY	4141	CCAGGCTACGGTGTGCGCCAGGCGCTCAGGCTCCACTTCATGTGGGACCAATGTGGAA	4200
Db	4141	CCAGGCTACGGTGTGCGCCAGGCGCTCAGGCTCCACTTCATGTGGGACCAATGTGGAA	4200
QY	4201	GTGTCTCACTAAGGCTTAAAGCCTTAGCGCTGACAGGSCCAACGCCCTTGCTGTATAGCTGGG	4260
Db	4201	GTGTCTCACTAAGGCTTAAAGCCTTAGCGCTGACAGGSCCAACGCCCTTGCTGTATAGCTGGG	4260
QY	4261	AGCGGTTCAAAAACGAGGTTACTACACACACCCCAATACAAATACATCATGGGATGCAT	4320
Db	4261	AGCGGTTCAAAAACGAGGTTACTACACACACCCCAATACAAATACATCATGGGATGCAT	4320
QY	4321	GTGCGCTTACCTGAGAGTCTGACAGAGCACTGGGTTGCTGTAGGCGGAGTCTTAGCAGC	4380
Db	4321	GTGCGCTTACCTGAGAGTCTGACAGAGCACTGGGTTGCTGTAGGCGGAGTCTTAGCAGC	4380
QY	4381	TCTGGCGCGGTATTTGCTCTGACAAACAGGACGCTGTCAATTGTGGGACAGATCATTTGTCT	4440
Db	4381	TCTGGCTGCGTATTTGCTCTGACAAACAGGACGCTGTCAATTGTGGGACAGATCATTTGTCT	4440
QY	4441	CGGAAAGCGCGGCAATCTCCGACAGGGAAGTCTTTACGGGAGTTTCGATGAGATGGA	4500
Db	4441	CGGAAAGCGCGGCAATCTCCGACAGGGAAGTCTTTACGGGAGTTTCGATGAGATGGA	4500
QY	4501	AGAGTGCCTCTCACACCTCCCTTACATGAACAGGGAATGCAAGCTTCGCGAACAATTCAA	4560
Db	4501	AGAGTGTGCTCTCACACCTCCCTTACATGAACAGGGAATGCAAGCTTCGCGAACAATTCAA	4560
QY	4561	ACAGAAAGGCAATCGGAGTTGCTGCAAAACGCCACCAAGCAAGCGAGGCTGCTCCCGT	4620
Db	4561	ACAGAAAGGCAATCGGAGTTGCTGCAAAACGCCACCAAGCAAGCGAGGCTGCTCCCGT	4620
QY	4621	GATGGAATTCGAAGTGGCGGACCCCTGGAAGCCTTCGGGCGAAAGCATATGTGAATTTGAT	4680
Db	4621	GATGGAATTCGAAGTGGCGGACCCCTGGAAGCCTTCGGGCGAAAGCATATGTGAATTTGAT	4680
QY	4681	CAGCGGGAATACATATATTAGCAGGCTTGTCCACTCTGTCTGGCAACCCCGGATAGCATC	4740
Db	4681	CAGCGGGAATACATATATTAGCAGGCTTGTCCACTCTGTCTGGCAACCCCGGATAGCATC	4740
QY	4741	ACTGATGCGATTCACAGCCTCTATACCAAGCCCGCTCAACACCACATACCTCTCTGTT	4800
Db	4741	ACTGATGCGATTCACAGCCTCTATACCAAGCCCGCTCAACACCACATACCTCTCTGTT	4800
QY	4801	TAACATCTCGGGGGGATGGGTGGCGCGCAACTTGCTCTCCAGCGCTTGCTTCTGCTTT	4860
Db	4801	TAACATCTCGGGGGGATGGGTGGCGCGCAACTTGCTCTCCAGCGCTTGCTTCTGCTTT	4860
QY	4861	CGTAGGCGCCCGGCAATCGCTGGAACGCGCTGTTGGCAGCATATAGCCTTGGGAAGTCTGT	4920
Db	4861	CGTAGGCGCCCGGCAATCGCTGGAACGCGCTGTTGGCAGCATATAGCCTTGGGAAGTCTGT	4920
QY	4921	GGATATTTTGGCAGGTTATGAGACGAGGGTGGCAGGCGCGCTCGTGACTTTAAGTCAT	4980
Db	4921	GGATATTTTGGCAGGTTATGAGACGAGGGTGGCAGGCGCGCTCGTGACTTTAAGTCAT	4980
QY	4981	GAGCGGCGAGATGCGCTCTCACACGAGAACCTTGTTAACTAATCTCCTGTCTATCTCTCCC	5040
Db	4981	GAGCGGCGAGATGCGCTCTCACACGAGAACCTTGTTAACTAATCTCCTGTCTATCTCTCCC	5040
QY	5041	TGGCGCCCTTAGTCGTGCGGAGTCTGTGCGCAGCATATCTGCGTGGGACAGTGGGCCAGG	5100
Db	5041	TGGCGCCCTTAGTCGTGCGGAGTCTGTGCGCAGCATATCTGCGTGGGACAGTGGGCCAGG	5100
QY	5101	GGAGGGGAGCTGTGCAGTGATGAACCGGCTGATAGCTTTCGCTTCGCGGGGTAAACAGCT	5160

Db	5101	GGAGGGGGCTGTGAGTGAATGAACCGGCTGTAGAGCTTGCTTCGCGGGGTAAACAAGT	5160
Qy	5161	CTCCCCACGCACTATGTGCTTGAGACGACGCTGCACGACGTGTCACTCAGATCTCTC	5220
Db	5161	CTCCCCACGCACTATGTGCTTGAGACGACGCTGCAGCAGCTGTCACTCAGATCTCTC	5220
Qy	5221	TAGTCTTAACCATCACTGAGTGTCTGTAAGAGGCTTCAACAGTGAATCAACGAGACTGCTC	5280
Db	5221	TAGTCTTAACCATCACTGAGTGTCTGTAAGAGGCTTCAACAGTGAATCAACGAGACTGCTC	5280
Qy	5281	CAGCCCAATGCTCCGGGCTCGTGGCTAAGAGATGTTTGGGATTTGGGTATGCACGGTTGTAC	5340
Db	5281	CAGCCCAATGCTCCGGGCTCGTGGCTAAGAGATGTTTGGGATTTGGGTATGCACGGTTGTAC	5340
Qy	5341	TGATTTCAAGACTGTGCTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGT	5400
Db	5341	TGATTTCAAGACTGTGCTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGTCCAGT	5400
Qy	5401	CTCATGTCAAAGTGGGTAAAGAGAGTCTGAGCGGGGCGACGCGCATCATGTCAAACACTG	5460
Db	5401	CTCATGTCAAAGTGGGTAAAGAGAGTCTGAGCGGGGCGACGCGCATCATGTCAAACACTG	5460
Qy	5461	CCCATGTGGAGCACAGATCAACCGGACATGTGAAAATGTGTTCAATGAGATCTGTGGGGCC	5520
Db	5461	CCCATGTGGAGCACAGATCAACCGGACATGTGAAAATGTGTTCAATGAGATCTGTGGGGCC	5520
Qy	5521	TAGGACCTGTAAAGTAAACAGTGGCATGGAACTTCCCATTAACGCGTAAACACACGAGGCC	5580
Db	5521	TAGGACCTGTAAAGTAAACAGTGGCATGGAACTTCCCATTAACGCGTAAACACACGAGGCC	5580
Qy	5581	CTGACAGCCCTCCCGGGGCGCAATTATTTGAGGGGCTGTGGCGGGTGGCTGTGAGA	5640
Db	5581	CTGACAGCCCTCCCGGGGCGCAATTATTTGAGGGGCTGTGGCGGGTGGCTGTGAGA	5640
Qy	5641	GTACGTGAAGTTAAAGGGGTGGGGGATTTCCATAGTAAACGGGCAATGACACTGACAA	5700
Db	5641	GTACGTGAAGTTAAAGGGGTGGGGGATTTCCATAGTAAACGGGCAATGACACTGACAA	5700
Qy	5701	CGTAAATGCGCCGCTGTCAGGTTCCGGGCGCCCGCAATTTCTTACAGAAAGTGAAGGGTGGC	5760
Db	5701	CGTAAATGCGCCGCTGTCAGGTTCCGGGCGCCCGCAATTTCTTACAGAAAGTGAAGGGTGGC	5760
Qy	5761	GTTGCACAGGTAAGCTCAAGCTGACAAACCTCTCTTACGGGAGAGGTCAATTTCTGTGT	5820
Db	5761	GTTGCACAGGTAAGCTCAAGCTGACAAACCTCTCTTACGGGAGAGGTCAATTTCTGTGT	5820
Qy	5821	CGGGCTCAATTCATCTGTTGGGTACAGCTTCCCATGGGAGCCGGAACCGGACGTAGC	5880
Db	5821	CGGGCTCAATTCATCTGTTGGGTACAGCTTCCCATGGGAGCCGGAACCGGACGTAGC	5880
Qy	5881	AGTGTCACTTCCATGCTCAACCGACCCCTCCCAATTAACGGCGGAGACGGCTAAAGCTAG	5940
Db	5881	AGTGTCACTTCCATGCTCAACCGACCCCTCCCAATTAACGGCGGAGACGGCTAAAGCTAG	5940
Qy	5941	GCTGGCCAGGGGATCTCCCGCTCTTGGGCAAGCTCATCACTAGCCAGCTGTCTGGCC	6000
Db	5941	GCTGGCCAGGGGATCTCCCGCTCTTGGGCAAGCTCATCACTAGCCAGCTGTCTGGCC	6000
Qy	6001	CTCCTTGAAGCAATGACACTACCGGTATGACTCCCGGAGCGTCACTCATCGAGGC	6060
Db	6001	CTCCTTGAAGCAATGACACTACCGGTATGACTCCCGGAGCGTCACTCATCGAGGC	6060
Qy	6061	CAACCTCTGTGGGGGAGAGATGAGGGGGGAAACATCAACCGGCTGAGGTACAGAAATAA	6120
Db	6061	CAACCTCTGTGGGGGAGAGATGAGGGGGGAAACATCAACCGGCTGAGGTACAGAAATAA	6120
Qy	6121	GGTAGTAATTTTGGACTCTTTCCAGCGCGCTCAAAGCGAGAGAGATGAGAGGAAATATC	6180
Db	6121	GGTAGTAATTTTGGACTCTTTCCAGCGCGCTCAAAGCGAGAGAGATGAGAGGAAATATC	6180
Qy	6181	CGTTCCGGCGGAGATCTCGCGGAGGTCAAGAAATTTCTTCAAGCGATGCCCATATGGC	6240
Db	6181	CGTTCCGGCGGAGATCTCGCGGAGGTCAAGAAATTTCTTCAAGCGATGCCCATATGGC	6240

Db	6181	CGTTCCGGGAGAGATCTGCGGAGGTCACGAGAAATTCCTCTGAGGATAGGCCATATGAGC	6240
Qy	6241	ACGCCGGATTACAACCTCTCCACTGTATAGAGTCCTGGAAGAACCCGGACTACGTCTCTCC	6300
Db	6241	ACGCCGGATTACAACCTCTCCACTGTATAGAGTCCTGGAAGAACCCGGACTACGTCTCTCC	6300
Qy	6301	AGTGGTACACGGGTGTCCATTGCGCGCTGGCCAAAGGCCCTCTCGATACCACTTCCACGGAG	6360
Db	6301	AGTGGTACACGGGTGTCCATTGCGCGCTGGCCAAAGGCCCTCTCGATACCACTTCCACGGAG	6360
Qy	6361	GAAGAGACGGGTGTCTGTCCGATCTACCGTGTCTTCTGCGTTGGGAGACTCGCAC	6420
Db	6361	GAAGAGACGGGTGTCTGTCCGATCTACCGTGTCTTCTGCGTTGGGAGACTCGCAC	6420
Qy	6421	AAAGACTTTCGGCAGCTCCGATCGTCCGCGCTGCACAGCGGCAACGGCAACGGCTCTCC	6480
Db	6421	AAAGACTTTCGGCAGCTCCGATCGTCCGCGCGCTGCACAGCGGCAACGGCAACGGCTCTCC	6480
Qy	6481	TGACCAAGCCTTCCGACGACGCGGAGATCCGAGTTGAATGTCTCTCTCAATGCC	6540
Db	6481	TGACCAAGCCTTCCGACGACGCGGAGATCCGAGTTGAATGTCTCTCTCAATGCC	6540
Qy	6541	CCCCCTTAAAGGGGAGCGCGGGGGAATCCCGAATCTCAGCGAAGGGTCTTGATACCGTAAG	6600
Db	6541	CCCCCTTAAAGGGGAGCGCGGGGGAATCCCGAATCTCAGCGAAGGGTCTTGATACCGTAAG	6600
Qy	6601	CGAGAGGCTAGTAGAGACGTGTCTGTCTCGATGTCTTACAATGGAACGGCGCCT	6660
Db	6601	CGAGAGGCTAGTAGAGACGTGTCTGTCTCGATGTCTTACAATGGAACGGCGCCT	6660
Qy	6661	GATCACGCGCATGCGCTGCGGAGGAAACCAAGCTGCGCATCAATGCACTGAGCAACTCTTT	6720
Db	6661	GATCACGCGCATGCGCTGCGGAGGAAACCAAGCTGCGCATCAATGCACTGAGCAACTCTTT	6720
Qy	6721	GCTCCGTACCAACAATTGGTCTATAGCTACAAATCTGCGAGCGCAAGCCTCGCGCAGAA	6780
Db	6721	GCTCCGTACCAACAATTGGTCTATAGCTACAAATCTGCGAGCGCAAGCCTCGCGCAGAA	6780
Qy	6781	GAAGGTCACTTTGACAGACTGCAAGGTCTTGAGACGACCACTACCGGGACGTGTCCAAAGA	6840
Db	6781	GAAGGTCACTTTGACAGACTGCAAGGTCTTGAGACGACCACTACCGGGACGTGTCCAAAGA	6840
Qy	6841	GATGAGGCGAAGGCGTCCACAGTTAAGGCTTAACTTCTATCCGTGAGAGAAAGCCTGTAA	6900
Db	6841	GATGAGGCGAAGGCGTCCACAGTTAAGGCTTAACTTCTATCCGTGAGAGAAAGCCTGTAA	6900
Qy	6901	GCTGACGCCCCCAATTCGGCCAAATCTTAAATTTGGCTATGGGGCAAAAGACGTCGGAAA	6960
Db	6901	GCTGACGCCCCCAATTCGGCCAAATCTTAAATTTGGCTATGGGGCAAAAGACGTCGGAAA	6960
Qy	6961	CCTATCCAGCAAGGCGGTTTAAACAATCCGCTCGGTGTGAAAGGACCTTGCTGGAAGCAC	7020
Db	6961	CCTATCCAGCAAGGCGGTTTAAACAATCCGCTCGGTGTGAAAGGACCTTGCTGGAAGCAC	7020
Qy	7021	TGAGACACCAATTTACACCAACATCATATGGAAGAAATGAGGTTTTCGCGTCCAAACAGA	7080
Db	7021	TGAGACACCAATTTACACCAACATCATATGGAAGAAATGAGGTTTTCGCGTCCAAACAGA	7080
Qy	7081	GAAGGGGGGGCGCAAGCCAGCTCGCTTATCTGATATTCACAGATTTGGGGGTTCTGTGTGT	7140
Db	7081	GAAGGGGGGGCGCAAGCCAGCTCGCTTATCTGATATTCACAGATTTGGGGGTTCTGTGTGT	7140
Qy	7141	CGAGAAAATGGCCCTTTTACGATGTGTGTCCACCTCCCTCAGAGGCGGTGATGGGCTCTTC	7200
Db	7141	CGAGAAAATGGCCCTTTTACGATGTGTGTCCACCTCCCTCAGAGGCGGTGATGGGCTCTTC	7200
Qy	7201	ATAAGGATTCATATACTCTCTGTGACAGCGGTCGAGTCTCTGTGTGATGCTTGGAAAGC	7260
Db	7201	ATAAGGATTCATATACTCTCTGTGACAGCGGTCGAGTCTCTGTGTGATGCTTGGAAAGC	7260
Qy	7261	GAAGAAATGCGCTTATGGGCTTGGCATATGACACCGCGCTGTTTGACTCAACGGTCACTGA	7320
Db	7261	GAAGAAATGCGCTTATGGGCTTGGCATATGACACCGCGCTGTTTGACTCAACGGTCACTGA	7320

QY	7321	AAATGACATCCGTTMTAGAGATCAATCAATCAATGTTTGTGACTTTGGCCCCCGAAGCCAG	7380
Db	7321	GAATGACATCCGTTGTAGAGAGTCAATTCACAAATGTTGTGACTTTGGCCCCCGAAGCCAG	7380
QY	7381	ACAGGCCATAAGTCGCTCA CAGAGCGGCTTTATCATCGGGGGCCCCCTGACTAATTTCTAA	7440
Db	7381	ACAGGCCATAAGTCGCTCA CAGAGCGGCTTTATCATCGGGGGCCCCCTGACTAATTTCTAA	7440
QY	7441	AGGCGAAGATCGCGGCTATCGCCGGTGC CGCGCAGCGGTGTACTGACGACGACTGCGG	7500
Db	7441	AGGCGAAGATCGCGGCTATCGCCGGTGC CGCGCAGCGGTGTACTGACGACGACTGCGG	7500
QY	7501	TAATATCCCTCA CAGTTTACTTTGAAGGGCCGCTCGGCGCTGTGAGCTGCGAAGCTCCAGGA	7560
Db	7501	TAATATCCCTCA CAGTTTACTTTGAAGGGCCGCTCGGCGCTGTGAGCTGCGAAGCTCCAGGA	7560
QY	7561	CTGCACAGATCGTATGCGGAGACGACCTTGTGCTTATCTGTGAAAACGCGGGGGAACCA	7620
Db	7561	CTGCACAGATCGTATGCGGAGACGACCTTGTGCTTATCTGTGAAAACGCGGGGGAACCA	7620
QY	7621	AGAGAGAGAGGCGGAGCTTAGCGGGCTTCA GGAAGGCTATGACTGATATCTTGGCCCCC	7680
Db	7621	AGAGAGAGAGGCGGAGCTTAGCGGGCTTCA GGAAGGCTATGACTGATATCTTGGCCCCC	7680
QY	7681	TGGGGACCCGCGCCAAACAGATACGACTTGGGAGATTAATCATATGCTCTTCCAAATGT	7740
Db	7681	TGGGGACCCGCGCCAAACAGATACGACTTGGGAGATTAATCATATGCTCTTCCAAATGT	7740
QY	7741	GTCAGTCGCGCACGATSCATCTTGGCAAAAGGTGTACTATCCCGGTGACCCGACAC	7800
Db	7741	GTCAGTCGCGCACGATSCATCTTGGCAAAAGGTGTACTATCCCGGTGACCCGACAC	7800
QY	7801	CCCCCTTGGCGGGGCTGCGGTGGGAGACAGCTAGACATCCGACTCAATTCGCGCTAGG	7860
Db	7801	CCCCCTTGGCGGGGCTGCGGTGGGAGACAGCTAGACATCCGACTCAATTCGCGCTAGG	7860
QY	7861	CAACATCATCATGTATGTCGCGCCACTTGTGGGCGAAGATGATCTGATGACTCATTTCTT	7920
Db	7861	CAACATCATCATGTATGTCGCGCCACTTGTGGGCGAAGATGATCTGATGACTCATTTCTT	7920
QY	7921	CTCCATCTCTTCTAGCTAGAGAACACTTTGAAAAGCCCTTGATTTGTCAATCTACGCGGC	7980
Db	7921	CTCCATCTCTTCTAGCTAGAGAACACTTTGAAAAGCCCTTGATTTGTCAATCTACGCGGC	7980
QY	7981	CTGTTTATCTCATTTGAGGCCATTGACCTACCTCAGATCATTTCCAGACTCCACGCGCTTAG	8040
Db	7981	CTGTTTATCTCATTTGAGGCCATTGACCTACCTCAGATCATTTCCAGACTCCACGCGCTTAG	8040
QY	8041	CGCATTTTCACTCATATGTTACTCTCCAGGTGAGATCAATAGGGTGGCTTCAATGCTCAG	8100
Db	8041	CGCATTTTCACTCATATGTTACTCTCCAGGTGAGATCAATAGGGTGGCTTCAATGCTCAG	8100
QY	8101	GAATCTTGGGGTACCGGCCCTTGGGAGTGTGGAGACATCGGGCCAGAAAGTGTCCGCGCTAG	8160
Db	8101	GAATCTTGGGGTACCGGCCCTTGGGAGTGTGGAGACATCGGGCCAGAAAGTGTCCGCGCTAG	8160
QY	8161	GCTACTGTCCAGGGGGGAGGGGCTGCACTTGTGGCAATACCTCTTCAACTGGGCGAT	8220
Db	8161	GCTACTGTCCAGGGGGGAGGGGCTGCACTTGTGGCAATACCTCTTCAACTGGGCGAT	8220
QY	8221	AAGGACCAAGCTCAACTCATCTCAATCCGGGCTGCTCCAGTTGGATTTATCCAGCTG	8280
Db	8221	AAGGACCAAGCTCAACTCATCTCAATCCGGGCTGCTCCAGTTGGATTTATCCAGCTG	8280
QY	8281	GTTTCGTTGCTGTTTACAGCGGGGGAAGATATATCAAGGCTGTCTGTGTCGCCGACCCG	8340
Db	8281	GTTTCGTTGCTGTTTACAGCGGGGGAAGATATATCAAGGCTGTCTGTGTCGCCGACCCG	8340
QY	8341	CTGGTTCAAGTGTGCTTACTCTCTTCTGTAGAGGGTATAGCAATCTATCTATCTCCCA	8400
Db	8341	CTGGTTCAAGTGTGCTTACTCTCTTCTGTAGAGGGTATAGCAATCTATCTATCTCCCA	8400

QY 8401 CCGATGAACGGGAGCTAAACACTCAGGCCAATAGCCATCTGTTTTTCCCTTTT 8460
DB 8401 CCGATGAACGGGAGCTAAACACTCAGGCCAATAGGCCAATCTGTTTTTCC----- 8455
QY 8461 TCCCTTCCCCCTTTT 8520
DB 8456 -----TTTCTCTTTT 8510
QY 8521 TTCCCTTTTTTTTTTCTTTCTTTCTTTCTTTGTCCTCATCTTAAGCCCTAGTACAAGCT 8580
DB 8511 TTTTCTCTTTTTTTTTTCTTTCTTTCTTTCTTTGTCCTCATCTTAAGCCCTAGTACAAGCT 8570
QY 8581 AGCTGTGAAGAGTCCTGAGCGCTTGAAGTCACTGAGAGAGTGTGATACAGCTCTCTGCA 8640
DB 8571 AGCTGTGAAGAGTCCTGAGCGCTTGAAGTCACTGAGAGAGTGTGATACAGCTCTCTGCA 8630
QY 8641 GATCAAGT 8648
DB 8631 GATCAAGT 8638

RESULT 5
US-10-789-355-25-COPY
; Sequence 25, Application US/10789355
; GENERAL INFORMATION:
; APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
; TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
; TITLE OF INVENTION: HEPATITIS C VIRUS
; FILE REFERENCE: 13/083
; CURRENT APPLICATION NUMBER: US/10/789,355
; CURRENT FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/029,907
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/257,857
; PRIOR FILING DATE: 2000-12-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 8638
; TYPE: DNA
; ORGANISM: HCV
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1802)...(8407)
US-10-789-355-25-COPY

Query Match 99.2%; Score 8577.2; DB 1; Length 8638;
Best Local Similarity 99.6%; Pred. No. 0;
Matches 8609; Conservative 0; Mismatches 28; Indels 10; Gaps 1;

QY 2 CCAAGCCCCGAGTGGGGGCGACATCCACCATAGATCACTCCCTGATAGGAATCTACTGT 61
DB 2 CCAAGCCCCGAGTGGGGGCGACATCCACCATAGATCACTCCCTGATAGGAATCTACTGT 61
QY 62 CTTACGAGAAAGGCTTAGCCATGAGCTTAGTATGATGCTGAGCTCCAGAGC 121
DB 62 CTTACGAGAAAGGCTTAGCCATGAGCTTAGTATGATGCTGAGCTCCAGAGC 121
QY 122 CCCCCCTCCGAGAGACCATAGTGTCTGCGAAGCCGATGAGTACACCGGAATTGCGAG 181
DB 122 CCCCCCTCCGAGAGACCATAGTGTCTGCGAAGCCGATGAGTACACCGGAATTGCGAG 181
QY 182 ACGACCGGAGTCTTTCTTGATCAACCGGCTCAAGCCTGAGAGATTTGGGGTGCCTCCG 241
DB 182 ACGACCGGAGTCTTTCTTGATCAACCGGCTCAAGCCTGAGAGATTTGGGGTGCCTCCG 241
QY 242 CGAGACTCTAGCCGAGTATGTTGGTTCGCAAAAGCCTTGTGTAATGCTGATAGG 301
DB 242 CGAGACTCTAGCCGAGTATGTTGGTTCGCAAAAGCCTTGTGTAATGCTGATAGG 301
QY 302 TGTCTGAGTGCCTCCGAGAGTCTGTAGACCGTGCAACATGACGAATCTTAAAC 361
DB 302 TGTCTGAGTGCCTCCGAGAGTCTGTAGACCGTGCAACATGACGAATCTTAAAC 361

QY 362 TCAAGAAAAACCAAGGGGCGCCATGATTGAACAAGATGATTGACGAGGTTCTCC 421
DB 362 TCAAGAAAAACCAAGGGGCGCCATGATTGAACAAGATGATTGACGAGGTTCTCC 421
QY 422 GCGCGCTTGGGTGAGAGGCTATTGCGCTATGACTGGGCAACAACAGCAATCGGCTCTC 481
DB 422 GCGCGCTTGGGTGAGAGGCTATTGCGCTATGACTGGGCAACAACAGCAATCGGCTCTC 481
QY 482 TGAATGCCCGGTGTTCCGGCTGTCAAGCGAGGGCGCGGTTCTTTTGTCAAGACGA 541
DB 482 TGAATGCCCGGTGTTCCGGCTGTCAAGCGAGGGCGCGGTTCTTTTGTCAAGACGA 541
QY 542 CCGTCCGGTGGCCGTGAATGAACTGCAGAGCAAGGCGAGGCTATCGTGGCTGCGAC 601
DB 542 CCGTCCGGTGGCCGTGAATGAACTGCAGAGCAAGGCGAGGCTATCGTGGCTGCGAC 601
QY 602 GACGGGCGTTCCTTGCAGCTGTGCTGACGTTGTCAAGCGGAAAGGAAGCTGCT 661
DB 602 GACGGGCGTTCCTTGCAGCTGTGCTGACGTTGTCAAGCGGAAAGGAAGCTGCT 661
QY 662 GCTATTGGGCGAAGTCCCGGGGAGAGATCTCTGTCACTCACTTGTCTCTGCGGAA 721
DB 662 GCTATTGGGCGAAGTCCCGGGGAGAGATCTCTGTCACTCACTTGTCTCTGCGGAA 721
QY 722 AGTATCATCATGCTATGCTATGCTGATGCAATGCGGAGCTTGAATCGGCTACCTGCC 781
DB 722 AGTATCATCATGCTATGCTATGCTGATGCAATGCGGAGCTTGAATCGGCTACCTGCC 781
QY 782 ATTGACCAACCAAGCAAGCATGCTGAGCGAGCATCTCGATGAGAGCGGCT 841
DB 782 ATTGACCAACCAAGCAAGCATGCTGAGCGAGCATCTCGATGAGAGCGGCT 841
QY 842 TGTGATCAGAGTATCTGACCAAGAGCATCAGGGGCTGGCGCAGCCGAATCTTCCG 901
DB 842 TGTGATCAGAGTATCTGACCAAGAGCATCAGGGGCTGGCGCAGCCGAATCTTCCG 901
QY 902 CAGGCTCAAGGCGGAGATGCGCGAGCGAGGATCTGTGTGACCAATGAGGATGCTG 961
DB 902 CAGGCTCAAGGCGGAGATGCGCGAGCGAGGATCTGTGTGACCAATGAGGATGCTG 961
QY 962 CTTGCCAATATCATGATGAGAAATGAGCGCTTTCTGATTCATGACTGTGCGGCT 1021
DB 962 CTTGCCAATATCATGATGAGAAATGAGCGCTTTCTGATTCATGACTGTGCGGCT 1021
QY 1022 GGGTGTGCGGACCGCTATCAGGACATAGCGTTGGCTAACCGTGAAGAGCT 1081
DB 1022 GGGTGTGCGGACCGCTATCAGGACATAGCGTTGGCTAACCGTGAAGAGCT 1081
QY 1082 TGGGCGGGAATGCGGCTGACCGCTTCTGTGTGCTTACGATGCGCGCTCCGATTGCA 1141
DB 1082 TGGGCGGGAATGCGGCTGACCGCTTCTGTGTGCTTACGATGCGCGCTCCGATTGCA 1141
QY 1142 GCGCATGCGCTTATGAGCTTCTTGAAGATTCCTGAGTTGCGCGCCAGATGTTAAC 1201
DB 1142 GCGCATGCGCTTATGAGCTTCTTGAAGATTCCTGAGTTGCGCGCCAGATGTTAAC 1201
QY 1202 AGACCAACAAGGTTTCCCTCTAGCGGAGTCAATTCGCCCCCCTTAACGTTACTGCG 1261
DB 1202 AGACCAACAAGGTTTCCCTCTAGCGGAGTCAATTCGCCCCCCTTAACGTTACTGCG 1261
QY 1262 CGAAGCGGCTTGAATAGGCGGCTGCGGTTGTCTAATATGTTATTTTCAACCATATTG 1321
DB 1262 CGAAGCGGCTTGAATAGGCGGCTGCGGTTGTCTAATATGTTATTTTCAACCATATTG 1321
QY 1322 CCGTCTTTTGGCAATGTAAGGCGCGGAAACTGAGCCTGCTTCTTGAAGAGATTCCT 1381
DB 1322 CCGTCTTTTGGCAATGTAAGGCGCGGAAACTGAGCCTGCTTCTTGAAGAGATTCCT 1381
QY 1382 AGGGGCTTTTCCCTCTGCGCAAGGAATGCAAGGCTGTTGAATGTCGTGAAGGAAGA 1441
DB 1382 AGGGGCTTTTCCCTCTGCGCAAGGAATGCAAGGCTGTTGAATGTCGTGAAGGAAGA 1441

QY	1442	GTTCCTCTGGAAGCTTCTTGAAGACAAACAAGCTGTGAGGACCCCTTGAAGCAGCAGG	1501
Db	1442	GTTCCTCTGGAAGCTTCTTGAAGACAAACAAGCTGTGAGGACCCCTTGAAGCAGCAGG	1501
QY	1502	AACCCCCACCTGGGAGACAGGAGCCTCTGCGGCGCAAAAGCCACCGTATTAAGTATCACT	1561
Db	1502	AACCCCCACCTGGGAGACAGGAGCCTCTGCGGCGCAAAAGCCACCGTATTAAGTATCACT	1561
QY	1562	GCAAAAGCGGACAAACCCCAAGTCACCGTGTGAGTGTGATATGTGTGAAAGAGTCAAA	1621
Db	1562	GCAAAAGCGGACAAACCCCAAGTCACCGTGTGAGTGTGATATGTGTGAAAGAGTCAAA	1621
QY	1622	TGGCTCTCTCTCAAGGTATTTCAACAAGGGGCTGAAGAGTCCAGAAAGTACCCCATTTG	1681
Db	1622	TGGCTCTCTCTCAAGGTATTTCAACAAGGGGCTGAAGAGTCCAGAAAGTACCCCATTTG	1681
QY	1682	ATGGGATCTGATCTGGGGGCTCGGTGACATAGCTTTAATATGTATTAGTCCAGGTAAAA	1741
Db	1682	ATGGGATCTGATCTGGGGGCTCGGTGACATAGCTTTAATATGTATTAGTCCAGGTAAAA	1741
QY	1742	AACGCTAGAGCCCCCGGAACACGAGGAGCGTGTCTTCTTGA AAAACAGATATACC	1801
Db	1742	AACGCTAGAGCCCCCGGAACACGAGGAGCGTGTCTTCTTGA AAAACAGATATACC	1801
QY	1802	ATGGAACGGGAGATGGCAGCATCGTGGAGGCGCGGTTTTGATAGGTCTGATACTCTTG	1861
Db	1802	ATGGAACGGGAGATGGCAGCATCGTGGAGGCGCGGTTTTGATAGGTCTGATACTCTTG	1861
QY	1862	ACCTGTACACCGCACTATTAAGCTGTCTCTCGCTTAGGCTCATATGTGTATCAATATTTT	1921
Db	1862	ACCTGTACACCGCACTATTAAGCTGTCTCTCGCTTAGGCTCATATGTGTATCAATATTTT	1921
QY	1922	ATCACAGAGGCGAGGACCACTTGCGAATGTGTGATCCCCCCTCAACGTTGAGGGGGGCG	1981
Db	1922	ATCACAGAGGCGAGGACCACTTGCGAATGTGTGATCCCCCCTCAACGTTGAGGGGGGCG	1981
QY	1982	CGCGATGCGGTATCTCTCTCAAGTGCAGATCCACCAAGACTATCTTTACCATCACC	2041
Db	1982	CGCGATGCGGTATCTCTCTCAAGTGCAGATCCACCAAGACTATCTTTACCATCACC	2041
QY	2042	AAAATCTTGTCTCGCATATCTCGGTCTCACTGATGTGCTCCAGGCTGTATTAACAAAGTG	2101
Db	2042	AAAATCTTGTCTCGCATATCTCGGTCTCACTGATGTGCTCCAGGCTGTATTAACAAAGTG	2101
QY	2102	CGGATCTTCGAGGCGGACACAGGGGCTCATTTGTGTACATGCAATGCTGTGCGGAAGTGTGCT	2161
Db	2102	CGGATCTTCGAGGCGGACACAGGGGCTCATTTGTGTACATGCAATGCTGTGCGGAAGTGTGCT	2161
QY	2162	GGGGGTCAATTATGTCCAAATAGGCTCTCATGTAAGTTGGCCGCACTGACAGGTACGTAAGTT	2221
Db	2162	GGGGGTCAATTATGTCCAAATAGGCTCTCATGTAAGTTGGCCGCACTGACAGGTACGTAAGTT	2221
QY	2222	TATGACCAATCTCACCCCACTGCGGAGCTGGGCCACGCGGGCTTAAGAGACTTTCGSGTG	2281
Db	2222	TATGACCAATCTCACCCCACTGCGGAGCTGGGCCACGCGGGCTTAAGAGACTTTCGSGTG	2281
QY	2282	GCAGTGAGGCCCGGTGCTCTCTGATATGGAAGCAAGGTATACCTGAGGGGGGACAGAC	2341
Db	2282	GCAGTGAGGCCCGGTGCTCTCTGATATGGAAGCAAGGTATACCTGAGGGGGGACAGAC	2341
QY	2342	ACCGCGGCTGTGGGAGACATCATCTTGGGCTGCGCGTCTCGGCCGACAGGGAGAGAG	2401
Db	2342	ACCGCGGCTGTGGGAGACATCATCTTGGGCTGCGCGTCTCGGCCGACAGGGAGAGAG	2401
QY	2402	ATPACATCTGGGACCGGACAGACGCTTGAAGGGGACAGGGGTGGCGACTTTCGCGCTAATT	2461
Db	2402	ATPACATCTGGGACCGGACAGACGCTTGAAGGGGACAGGGGTGGCGACTTTCGCGCTAATT	2461
QY	2462	ACGGGCTATCTCCCAACAGACGCGAGGGCTTACTTGTGCTGACATCAACAGCTTACAGGC	2521
Db	2462	ACGGGCTATCTCCCAACAGACGCGAGGGCTTACTTGTGCTGACATCAACAGCTTACAGGC	2521
QY	2522	CGGACAGAGAACAGATCTGAAGGGAGGTCCAAATGTGTCTCACCGCAACATATTTTC	2581

Db	2522	CGGGACAGAAACAGAGTTCAGAGGGGAGGTCCAAATGGTCTCCACCGCAACAATCTTTC	25811
QY	2582	CTGGGGACTTGGCTCAATAGGGGTGTTGGACCTGTCTATCATATGGTGGCGGCTCAAAAGCC	26411
Db	2582	CTGGGGACTTGGCTCAATAGGGGTGTTGGACCTGTCTATCATATGGTGGCGGCTCAAAAGCC	26411
QY	2642	CTTGGCGGGCCCAAAAGGGCCCAATCAATCCAAATGTATCAACAAATGTGTGACCAAGACCTCGTC	27011
Db	2642	CTTGGCGGGCCCAAAAGGGCCCAATCAATCCAAATGTATCAACAAATGTGTGACCAAGACCTCGTC	27011
QY	2702	GACTGGCAAGCGCCCCCGGGGCGGTTCTTGTACACCATGACACTGCGGAGCTCGGAC	27611
Db	2702	GACTGGCAAGCGCCCCCGGGGCGGTTCTTGTACACCATGACACTGCGGAGCTCGGAC	27611
QY	2762	CTTTACTTTGTGCAGAGGACATGCCGATGTCAATTCGCGTGGCCCGGCGGGGTGCACAGCAG	28211
Db	2762	CTTTACTTTGTGCAGAGGACATGCCGATGTCAATTCGCGTGGCCCGGCGGGGTGCACAGCAG	28211
QY	2832	GGAGAGCTACTCTCTCCCCCAGGCGCGGTCTCCACTTTGAAGGGCTCTTGCGGGCGGTCACTG	28811
Db	2832	GGAGAGCTACTCTCTCCCCCAGGCGCGGTCTCCACTTTGAAGGGCTCTTGCGGGCGGTCACTG	28811
QY	2882	CTTGGCCCTTGCGGGGACGCTGTGGAGACTTTTGCGGCTGGCGGTGTCACCCCGGGGGTT	29411
Db	2882	CTTGGCCCTTGCGGGGACGCTGTGGAGACTTTTGCGGCTGGCGGTGTCACCCCGGGGGTT	29411
QY	2942	GCGAAGCGGTGTGACTTTGTACCCGTGAAGTCTATGTGAACCACTATAGCGGTCCCGTCC	30011
Db	2942	GCGAAGCGGTGTGACTTTGTACCCGTGAAGTCTATGTGAACCACTATAGCGGTCCCGTCC	30011
QY	3002	TTCAACGAGCAACTGTCTCCCTCCGAGCGGTACCGGACATTTCAAGGTGGCCCAATCTAC	30611
Db	3002	TTCAACGAGCAACTGTCTCCCTCCGAGCGGTACCGGACATTTCAAGGTGGCCCAATCTAC	30611
QY	3062	GCCCCTACTGTGTAGCGGCAAGAGCACTAAGGTGCGGCTGTGTATGTGAGGCCCAAGGGTAT	31211
Db	3062	GCCCCTACTGTGTAGCGGCAAGAGCACTAAGGTGCGGCTGTGTATGTGAGGCCCAAGGGTAT	31211
QY	3122	AAGGTGCTTGTCTTGAAACCGGTCCGTGGCGGCACTTCAAGTTCGGGGCGTATATGTCT	31811
Db	3122	AAGGTGCTTGTCTTGAAACCGGTCCGTGGCGGCACTTCAAGTTCGGGGCGTATATGTCT	31811
QY	3182	AAGGCAATGTATGCAACCCCTAATATGAAACCGGGGTAAAGAACATCAACACGGGTGCC	32411
Db	3182	AAGGCAATGTATGCAACCCCTAATATGAAACCGGGGTAAAGAACATCAACACGGGTGCC	32411
QY	3242	CCCATCAAGTACTCACTATATGCAATTTCTTGCCGACAGGGTGTCTCTGGGGGGCGCC	33011
Db	3242	CCCATCAAGTACTCACTATATGCAATTTCTTGCCGACAGGGTGTCTCTGGGGGGCGCC	33011
QY	3302	TATGACATCATATATATGTATGATGTGCACTCAACTGACTCGAACCACTATCTTGGGCATC	33611
Db	3302	TATGACATCATATATATGTATGATGTGCACTCAACTGACTCGAACCACTATCTTGGGCATC	33611
QY	3362	GGCACTATCTCTGACCAAGCGGAGACGGCTGTGAGCGGACCTGTGTGTGTGTGTGTGTGT	34211
Db	3362	GGCACTATCTCTGACCAAGCGGAGACGGCTGTGAGCGGACCTGTGTGTGTGTGTGTGTGT	34211
QY	3422	ACGCTCCCGGAGTGTGTACCGGTGCACTATCAAACTCAGAGAGGTGTCTGTGTGACG	34811
Db	3422	ACGCTCCCGGAGTGTGTACCGGTGCACTATCAAACTCAGAGAGGTGTCTGTGTGACG	34811
QY	3482	ACTGAGAGAAATCCCTTTTATGTGCAAAAGCCATCCCACTGAGACCAATCAAGGGGGGAGG	35411
Db	3482	ACTGAGAGAAATCCCTTTTATGTGCAAAAGCCATCCCACTGAGACCAATCAAGGGGGGAGG	35411
QY	3542	CACCTCATTTTCTGTGCACTTCAGAGAAATATGAGTGTGCGCGGAGAGCTGTGTGTG	36011
Db	3542	CACCTCATTTTCTGTGCACTTCAGAGAAATATGAGTGTGCGCGGAGAGCTGTGTGTG	36011
QY	3602	CTCGACTCAATGTGTATGCAATTAACCGGGGCTTGATGTATCCGTATACCACTAGC	36611

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Db 3602 CTCGAGCTCAATGCTGTAGCATATTACCGGGGCTTGATGTATCCGTCATACCAATGAC 3661
Qy 3662 GGAAGCGCATTTGTGTAGCAACGAGCGCTTAATGAGGGGCTTTACCGGGATTTGCAAC 3721
Db 3662 GAGAGCGTCATTGTGTAGCAACGAGCGCTTAATGAGGGGCTTTACCGGGATTTGCAAC 3721
Qy 3722 TCAGTATGCACTGCAATATATGTGTACCCGAGAGTGTGACTTTCAGCTGTGACCCGAC 3781
Db 3722 TCAGTATGCACTGCAATATATGTGTACCCGAGAGTGTGACTTTCAGCTGTGACCCGAC 3781
Qy 3782 TTCAACATTGAGACGACGCGTCCACAGACGCGGTGTCACTGTCGACGCGGAGGC 3841
Db 3782 TTCAACATTGAGACGACGCGTCCACAGACGCGGTGTCACTGTCGACGCGGAGGC 3841
Qy 3842 AGGACTGTGAGGGGAGGATGGGACTTAAAGGTTTGTGACTCCGAGGAAAGCGCCCTG 3901
Db 3842 AGGACTGTGAGGGGAGGATGGGACTTAAAGGTTTGTGACTCCGAGGAAAGCGCCCTG 3901
Qy 3902 GGCATGTTGATTCCTCGGTTCTGTGCGAGTGTATGACGCGGGCTGTGTTGGTACGAG 3961
Db 3902 GGCATGTTGATTCCTCGGTTCTGTGCGAGTGTATGACGCGGGCTGTGTTGGTACGAG 3961
Qy 3962 CTCACGCCCGCCGAGACCTCAGTTAGTTGGGGCTTAACTTAAACACACAGGGTTGCC 4021
Db 3962 CTCACGCCCGCCGAGACCTCAGTTAGTTGGGGCTTAACTTAAACACACAGGGTTGCC 4021
Qy 4022 GTCTGCGAGGACCACTGTGAGTCTGTGGAGAGCGCTTTACAGGCTTACCCACATAGAC 4081
Db 4022 GTCTGCGAGGACCACTGTGAGTCTGTGGAGAGCGCTTTACAGGCTTACCCACATAGAC 4081
Qy 4082 GCCCATTTCTTGTCCAGACTAAGCAGCAGAGACAACTTCCCTACCTGTGTAGCATAC 4141
Db 4082 GCCCATTTCTTGTCCAGACTAAGCAGCAGAGACAACTTCCCTACCTGTGTAGCATAC 4141
Qy 4142 CAGGCTTACGTTGTGCGCCAGGGCTCAGGCTCCTCATCTGTGGACCAATGTGGAG 4201
Db 4142 CAGGCTTACGTTGTGCGCCAGGGCTCAGGCTCCTCATCTGTGGACCAATGTGGAG 4201
Qy 4202 TGTCTCATACGAGCTTAAAGCTTACGCTGTGACAGGGCAAGCGCCCTGTATAGGCTGGA 4261
Db 4202 TGTCTCATACGAGCTTAAAGCTTACGCTGTGACAGGGCAAGCGCCCTGTATAGGCTGGA 4261
Qy 4262 GCGGTTCAAAACGAGTTACTACCAACACCCCATTAACCAATATCATATGAGCATGAC 4321
Db 4262 GCGGTTCAAAACGAGTTACTACCAACACCCCATTAACCAATATCATATGAGCATGAC 4321
Qy 4322 TCGGTGACCTGTGAGTGTGTACAGACGCTGGGTGTGTGAGGGAGTCTGTAGCAGCT 4381
Db 4322 TCGGTGACCTGTGAGTGTGTACAGACGCTGGGTGTGTGAGGGAGTCTGTAGCAGCT 4381
Qy 4382 CTGGCCGCGTATTGTGCTGACAAACAGGACGCGTGTCTATTGTGGCAGGATCATCTTGTCC 4441
Db 4382 CTGGCCGCGTATTGTGCTGACAAACAGGACGCGTGTCTATTGTGGCAGGATCATCTTGTCC 4441
Qy 4442 GGAAGCGCGGCAATCATTTCCGACAGGGAGTCTTTTACCGGGAATTCGATGAGATGGA 4501
Db 4442 GGAAGCGCGGCAATCATTTCCGACAGGGAGTCTTTTACCGGGAATTCGATGAGATGGA 4501
Qy 4502 GAGTGTGCTTACACCTCTTCACTGAAACAGGAAAGAGCTGTGCGGAACAAATTCGAA 4561
Db 4502 GAGTGTGCTTACACCTCTTCACTGAAACAGGAAAGAGCTGTGCGGAACAAATTCGAA 4561
Qy 4562 CAGAAGCAATCGGGTGTGCTGCAAAACAGCCACCAAGCAAGCGGAGGCTGTGCTCCGCTG 4621
Db 4562 CAGAAGCAATCGGGTGTGCTGCAAAACAGCCACCAAGCAAGCGGAGGCTGTGCTCCGCTG 4621
Qy 4622 GTGAATTCAGAGTGTGCGGACCTTCGAAACCTTTCGGGGGAGCAATGTGAAATTTTATC 4681
Db 4622 GTGAATTCAGAGTGTGCGGACCTTCGAAACCTTTCGGGGGAGCAATGTGAAATTTTATC 4681
Qy 4682 AGCGGATATCAATTTTATGAGAGGCTGTGTCACTGTGCTGTGCAACCCCGCATATGACATCA 4741
Db 4682 AGCGGATATCAATTTTATGAGAGGCTGTGTCACTGTGCTGTGCAACCCCGCATATGACATCA 4741
Qy 4742 CTGATGTGCAATTCAGAGCTCTATATACGAGCCGCTCACCAACCAATACCTCTCTGTTT 4801
Db 4742 CTGATGTGCAATTCAGAGCTCTATATACGAGCCGCTCACCAACCAATACCTCTCTGTTT 4801
Qy 4802 AACATCTGTGGGGGATAGGTGTGCGGCCCAACTTGTCTCTCCAGCGCTGTCTGTCTTC 4861
Db 4802 AACATCTGTGGGGGATAGGTGTGCGGCCCAACTTGTCTCTCCAGCGCTGTCTGTCTTC 4861
Qy 4862 GTAGGCCCGGCAATCGCTGAGCGGCTGTTGGACATAGAGCTTGGGAAAGTGTGTG 4921
Db 4862 GTAGGCCCGGCAATCGCTGAGCGGCTGTTGGACATAGAGCTTGGGAAAGTGTGTG 4921
Qy 4922 GATATTTTGGCAGTTATGAGACGAGGGGTGGCAGCGCGCTCGTGGCTTTAAGTCATG 4981
Db 4922 GATATTTTGGCAGTTATGAGACGAGGGGTGGCAGCGCGCTCGTGGCTTTAAGTCATG 4981
Qy 4982 AGCGCGAGATGTGCTTCCACCGAGGACCTGGTTAACCTACTCTCTGTATCTCTCCCT 5041
Db 4982 AGCGCGAGATGTGCTTCCACCGAGGACCTGGTTAACCTACTCTCTGTATCTCTCCCT 5041
Qy 5042 GCGCCCTTATGCTCGGGGTGTGTGTGCGACGATACCTGCGTGGCAGCTGTGGGCCAGGG 5101
Db 5042 GCGCCCTTATGCTCGGGGTGTGTGTGCGACGATACCTGCGTGGCAGCTGTGGGCCAGGG 5101
Qy 5102 GAGGGGCTGTGACGTGGATGGAACCGGCTGATAGCCTTGCGCTTCGCGGGTTAACAGTGC 5161
Db 5102 GAGGGGCTGTGACGTGGATGGAACCGGCTGATAGCCTTGCGCTTCGCGGGTTAACAGTGC 5161
Qy 5162 TCCCCCAGCATATGTGCTGTGAGAGGACGCTGTGACAGAGTGTCACTCAGATCTCTCT 5221
Db 5162 TCCCCCAGCATATGTGCTGTGAGAGGACGCTGTGACAGAGTGTGTCACTCAGATCTCTCT 5221
Qy 5222 AGTCTTACCATCTAGCTGTGAGAGGCTTACCAAGGCTTACCAAGGCTGTGCTCC 5281
Db 5222 AGTCTTACCATCTAGCTGTGAGAGGCTTACCAAGGCTTACCAAGGCTGTGCTCC 5281
Qy 5282 ACGCATGCTCCGAGCTGTGAGGATTTGGGATTTGGGATTTGGATTTGCAACGAGGCTGCTCC 5341
Db 5282 ACGCATGCTCCGAGCTGTGAGGATTTGGGATTTGGGATTTGGATTTGCAACGAGGCTGCTCC 5341
Qy 5342 GATTTCAAGACTGTGCTCAGTCCAGTCCAGTCTCTGCGGATTTGCGGGAGTCCCTTCTTC 5401
Db 5342 GATTTCAAGACTGTGCTCAGTCCAGTCCAGTCTCTGCGGATTTGCGGGAGTCCCTTCTTC 5401
Qy 5402 TCATGTAAAGTGTGTCAAGGAGTGTGGCGGGGAGCGGATCATGCAAAACCACTGTC 5461
Db 5402 TCATGTAAAGTGTGTCAAGGAGTGTGGCGGGGAGCGGATCATGCAAAACCACTGTC 5461
Qy 5462 CCAATGTGAGCAAGATCACCGGACATGTGAAAACTGTTCCATGAGGATCGTGGGCTT 5521
Db 5462 CCAATGTGAGCAAGATCACCGGACATGTGAAAACTGTTCCATGAGGATCGTGGGCTT 5521
Qy 5522 AGGACTGTGATTAACAGTGTGGAATGGAATTCCTCCATTAACGCGTACACACGAGGCC 5581
Db 5522 AGGACTGTGATTAACAGTGTGGAATGGAATTCCTCCATTAACGCGTACACACGAGGCC 5581
Qy 5582 TGCACGCTCTCCCGGCGCAATTTATTTAGGGCGCTGTGGCGGGTGTGCTGTGAGGAG 5641
Db 5582 TGCACGCTCTCCCGGCGCAATTTATTTAGGGCGCTGTGGCGGGTGTGCTGTGAGGAG 5641
Qy 5642 TACGTGAGGTTACGCGGGGTGGGGATTTTCACTAGCTGACGCGGATGACCTGTGACAC 5701
Db 5642 TACGTGAGGTTACGCGGGGTGGGGATTTTCACTAGCTGACGCGGATGACCTGTGACAC 5701
Qy 5702 GTAAGTGCCCGTGTGAGTTCGCGCCCGCAATTTCTTACAGAAATGTATGGGGTGG 5761
Db 5702 GTAAGTGCCCGTGTGAGTTCGCGCCCGCAATTTCTTACAGAAATGTATGGGGTGG 5761
Qy 5762 TTGCAAGGTTACGCTCAGGCTGTGCAAAACCTCTCTACGAGGAGGATCAATTCCTGCTC 5821
Db 5762 TTGCAAGGTTACGCTCAGGCTGTGCAAAACCTCTCTACGAGGAGGATCAATTCCTGCTC 5821
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OY	5882	GGGCTCAATCAATACCTGTTGGGTCAAGCTCCATGCGAGCCGGAACCGGACGTAGCA	5881
Db	5822	GGGCTCAATCAATACCGGTTGGGTCAAGCTCCATCGAGCCGGAACGTAGCA	5881
OY	5882	GGGCTCACTTCATGCTCAACGAGCCCTTCCCATTAAGGGGAGAACGGCTTAAGCTTAGG	5941
Db	5882	GGGCTCACTTCATGCTCAACGAGCCCTTCCCATTAAGGGGAGAACGGCTTAAGCTTAGG	5941
OY	5942	CTGGCCAGGGGATCTCCCCCTCTCTTGGCCAGCTCATGAGTAGCCAGCTCTGCGCC	6001
Db	5942	CTGGCCAGGGGATCTCCCCCTCTCTTGGCCAGCTCATGAGTAGCCAGCTCTGCGCC	6001
OY	6002	TCCTTGAAAGGCAACATGCACTACCCGTATGATCTCCCGAGCGTGACTCATGAGGCC	6061
Db	6002	TCCTTGAAAGGCAACATGCACTACCCGTATGATCTCCCGAGCGTGACTCATGAGGCC	6061
OY	6062	AACCTCCGTGGCGGCAAGATGCGGCGGGAACATCAACCCCGTGGATCGAAGAAATAG	6121
Db	6062	AACCTCCGTGGCGGCAAGATGCGGCGGGAACATCAACCCCGTGGATCGAAGAAATAG	6121
OY	6122	GTAAGTAATTTTGGACTCTTTTCGAGCGCTCCAAAGCGGAGAGATAGAGGGAATATCC	6181
Db	6122	GTAAGTAATTTTGGACTCTTTTCGAGCGCTCCAAAGCGGAGAGATAGAGGGAATATCC	6181
OY	6182	GTTCCGGCGGAGATCTCTCGGAGGTCCAGAAATTCCTCGAGGAGATGCCATATGGGCA	6241
Db	6182	GTTCCGGCGGAGATCTCTCGGAGGTCCAGAAATTCCTCGAGGAGATGCCATATGGGCA	6241
OY	6242	CGCCCGGATTACAACTCTCCACTGTTHAAGTCTGGAAGAACCCGGACTACAGTCCCTCCA	6301
Db	6242	CGCCCGGATTACAACTCTCCACTGTTHAAGTCTGGAAGAACCCGGACTACAGTCCCTCCA	6301
OY	6302	GTGGTACACGGAGTGTCCATTGCGCGCTCCAGAGCCCTCCGATACCACTCCAGGAGG	6361
Db	6302	GTGGTACACGGAGTGTCCATTGCGCGCTCCAGAGCCCTCCGATACCACTCCAGGAGG	6361
OY	6362	AAGAGGACGGTGTCTCTGTCAAGAACTCAACGTTCTTCTGCTTGGCGGAGCTCGCACA	6421
Db	6362	AAGAGGACGGTGTCTCTGTCAAGAACTCAACGTTCTTCTGCTTGGCGGAGCTCGCACA	6421
OY	6422	AAGAATCTTGGCAGTCTCCGAATCGTCCGCGGTCCAGACGGGCAACGGCTTCTCT	6481
Db	6422	AAGAATCTTGGCAGTCTCCGAATCGTCCGCGGTCCAGACGGGCAACGGCTTCTCT	6481
OY	6482	GACCAAGCCCTCCGACGAGCGGCGGAGTCCGAGCGTGAAGTGTCTCTCTCCATGCC	6541
Db	6482	GACCAAGCCCTCCGACGAGCGGCGGAGTCCGAGCGTGAAGTGTCTCTCTCCATGCC	6541
OY	6542	CCCTTGAAGGGGAGCGCGGGGATCCCGATCTCAGCAGCGGCTCTTGGTCTACCGTAAAC	6601
Db	6542	CCCTTGAAGGGGAGCGCGGGGATCCCGATCTCAGCAGCGGCTCTTGGTCTACCGTAAAC	6601
OY	6602	GAGAGGCTAATGAGGAGCTGTCTGCTGTCTGATGTCTTACATGAGACAGGGGCGCTG	6661
Db	6602	GAGAGGCTAATGAGGAGCTGTCTGCTGTCTGATGTCTTACATGAGACAGGGGCGCTG	6661
OY	6662	ATCACGCGCATGCGCTGGGAGAGAAACCAAGTGGCCCATCATGATGACATGAACTCTTGG	6721
Db	6662	ATCACGCGCATGCGCTGGGAGAGAAACCAAGTGGCCCATCATGATGACATGAACTCTTGG	6721
OY	6722	CTCCGTACACCAACTTGTGTATGTCTATCAACATCTCGACGCGAACCTTGGCGCAGAG	6781
Db	6722	CTCCGTACACCAACTTGTGTATGTCTATCAACATCTCGACGCGAACCTTGGCGCAGAG	6781
OY	6782	AAAGTCACTTTTGACAAGCTGCAAGTCTCTGACGACACATACCGGAGCGTGTCAAGAG	6841
Db	6782	AAAGTCACTTTTGACAAGCTGCAAGTCTCTGACGACACATACCGGAGCGTGTCAAGAG	6841
OY	6842	ATGAAGGCGAAGGGGTCCACAGTTAAAGGCTTAACTTCAATCCGAGGAGAAAGCTGTAAAG	6901
Db	6842	ATGAAGGCGAAGGGGTCCACAGTTAAAGGCTTAACTTCAATCCGAGGAGAAAGCTGTAAAG	6901
OY	6902	CTGACGCCCCCACTTCGGCCAGATCTTAAATTTGGCTATAGGGCGAAAGGAGCTCCGAGAC	6961

[illegible]

SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 25
LENGTH: 8638
TYPE: DNA
ORGANISM: HCV
FEATURE:
NAME/KEY: CDS
LOCATION: (1802)...(8407)
US-10-789-355-25-COPY

Query Match 0.4%; Score 33.4; DB 1; Length 8638;
Best Local Similarity 49.2%; Pred. No. 0;
Matches 88; Conservative 0; Mismatches 91; Indels 0; Gaps 0;

QY 6120 AGGTAGTAATTTTGGACTTTTGGAGCCGCTCCAGCGGAGAGAGATGAGAGGAAATAT 6179
DB 6298 AGGAGCGTAGTCGGGGTCTCCAGGACTTAACAGTGAAGGTTGTAATCCGGGGCTGC 6239
QY 6180 CCGTTCCGGCGGAGATCCCGGAGGTCGAGAAATTCCTCGAGCGATGCCATATGGG 6239
DB 6238 CCAATGGGCAATCGCTCGAGGAAATTTCTTGACCTCCGCGAGATCTCCGCGAAGCGA 6179
QY 6240 CAGCGCCGATTAACAACCTCCACTGTAGTCTCGAAGGAGCCGGAATAAGTCCCT 6298
DB 6178 TACTTCCCTCATCTCTCTCCGCTTGAGCGGCTCGAAGAGTCAAAATTAATTAATCT 6120

RESULT 9
US-10-789-355-2-COPY/c

Sequence 2, Application US/10789355
GENERAL INFORMATION:
APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
FILE REFERENCE: 13/083
CURRENT APPLICATION NUMBER: US/10/789,355
CURRENT FILING DATE: 2004-02-27
PRIOR APPLICATION NUMBER: US/10/029,907
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/257,857
PRIOR FILING DATE: 2000-12-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 8642
TYPE: DNA
ORGANISM: HCV
FEATURE:
NAME/KEY: CDS
LOCATION: (1802)...(8407)
FEATURE:
NAME/KEY: variation
LOCATION: 6268
OTHER INFORMATION: r = a or g
FEATURE:
NAME/KEY: variation
LOCATION: 4446
OTHER INFORMATION: r = a or g
US-10-789-355-2-COPY

Query Match 0.4%; Score 33; DB 1; Length 8642;

Best Local Similarity 48.6%; Pred. No. 0;
Matches 87; Conservative 1; Mismatches 91; Indels 0; Gaps 0;

QY 6120 AGGTAGTAATTTTGGACTTTTGGAGCCGCTCCAGCGGAGAGATGAGAGGAAATAT 6179
DB 6298 AGGAGCGTAGTCGGGGTCTCCAGGACTTAACAGTGAAGGTTGTAATCCGGGGCTGC 6239
QY 6180 CCGTTCCGGCGGAGATCCCGGAGGTCGAGAAATTCCTCGAGCGATGCCATATGGG 6239
DB 6238 CCAATGGGCAATCGCTCGAGGAAATTTCTTGACCTCCGCGAGATCTCCGCGAAGCGA 6179
QY 6240 CAGCGCCGATTAACAACCTCCACTGTAGTCTCGAAGGAGCCGGAATAAGTCCCT 6298

DB 6178 TACTTCCCTCATCTCTCTCCGCTTGAGCGGCTCGAAGAGTCAAAATTAATTAATCT 6120

RESULT 10

US-10-789-355-4-COPY/c

Sequence 4, Application US/10789355
GENERAL INFORMATION:
APPLICANT: BOEHRINGER INGELHEIM (CANADA) LTD.
TITLE OF INVENTION: SELF REPLICATING RNA MOLECULE FROM
FILE REFERENCE: 13/083
CURRENT APPLICATION NUMBER: US/10/789,355
CURRENT FILING DATE: 2004-02-27
PRIOR APPLICATION NUMBER: US/10/029,907
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/257,857
PRIOR FILING DATE: 2000-12-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 8643
TYPE: DNA
ORGANISM: HCV
FEATURE:
NAME/KEY: CDS
LOCATION: (1802)...(8407)
US-10-789-355-4-COPY

Query Match 0.4%; Score 31.8; DB 1; Length 8643;

Best Local Similarity 64.0%; Pred. No. 0;
Matches 48; Conservative 0; Mismatches 27; Indels 0; Gaps 0;

QY 858 CTGACGAAAGACATCAAGGGGCTCGCGCAGCCGAAGTTGCGCAGGCTCAAGGCGCG 917
DB 932 CTCGCCGCGGCAATGCGCGCTTGAGCTTGCAACAGTTGCGCTGCGCGAGGCCCTG 873
QY 918 ATGCCCGAGCGCGAG 932
DB 872 ATGCTCTTGTCAG 858

Search completed: March 14, 2007, 15:36:50
Job time : 38 secs

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